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Edited by

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THE PHILOSOPHICAL QUARTERLY

The policy of this periodical is to publish work of a high academic standard in philosophy, to include contributions from philosophers in any part of the world, and to give special attention to surveys of philosophical literature and book reviews. While no branch of philosophical study will be excluded, a preference may be given to work on metaphysics, ethics, political theory, and the philosophy of art, history, and religion. The Editor will also be glad to receive notes on points of philosophical scholarship.

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THE
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THEOLOGY AND PHILOSOPHY IN EARLY GREEK THOUGHT

I

When one reads the pre-Socratics with open mind and sensitive ear one cannot help being struck by the religious note in much of what they say. Few words occur more frequently in their fragments than the term 'god'.[1] The style itself in certain contexts is charged with religious associations; the rhythm and sentence structure of certain utterances is unmistakably hymnodic.[2] In Parmenides and Empedocles the whole doctrine of Being and Nature is put forth as a religious revelation. The major themes of all the *physiologoi*—the creation of the world, the necessity of its order, the origin of life, the nature of the soul, and even such things as the causes of winds, rain, lightning and thunder, rivers, meteorites, eclipses, earthquakes, plagues—were matters of vivid religious import to their contemporaries. Lightning, thunder, a storm, an earthquake were 'signs from Zeus' (διοσημίαι) that could stop a meeting of the Law Courts or of the Assembly;[3] religious feeling for an eclipse could overrule military intelligence to cause the greatest disaster ever suffered by Athenian arms.[4] The philosophers who took the 'natural' view of these things could not be indifferent to the religious bearing of their conclusions. To think of them

[1] See the word-index in H. Diels and W. Kranz, *Fragmente der Vorsokratiker*, 5th ed., Berlin, 1934-37 (all subsequent citations of pre-Socratic fragments refer to this work), *s.v. theos*: eight columns of listings, against six for *physis*, less than six for *kosmos*.

[2] See Ed. Norden, *Agnostos Theos*, Leipzig, 1913, p. 164; K. Deichgraeber, 'Hymnische Elemente in der philosophischen Prosa der Vorsokratiker', *Philologus* 88 (1933); and now W. Jaeger, *Theology of the Early Greek Philosophers*, Oxford, 1947, *passim*.

[3] For the evidence see e.g. O. Gilbert, *The Constitutional Antiquities of Sparta and Athens*. Eng. tr., London, 1895, p. 292, notes 3 and 5.

[4] Thuc. 7.50.4.

as mere naturalists, bracketing off their speculations from religious belief and feeling, would be to take a very anachronistic view of their thought.

Now it is just this view that was upheld quite belligerently by Burnet,[5] whose *Early Greek Philosophy* has gone through four editions since its first publication in 1892 to become the most influential guide to the study of the origins of Greek thought in the English-speaking world. Burnet explained away the term 'god' in the pre-Socratics as a 'non-religious use of the word' (p. 14); and though perhaps he never thought through the meaning of this remarkable expression, the general point of his contention is clear enough. Like many a god and goddess in Hesiod, he argued, the 'gods' of the philosophers are not 'objects of worship' but 'mere personifications' of natural phenomena. Now it is true that the *physiologoi* maintained in all their thinking a singular independence from the public cult. If this were all that Burnet had in mind, his contention would be not only true but, as I shall argue shortly, absolutely fundamental to the proper understanding of their religious ideas. But Burnet went far beyond this when he claimed that they themselves attached no religious import to those ideas which they proclaimed in open or tacit defiance of the prevailing faith. It is true, of course, that their primary object is to understand nature, not to reform religion. When they discuss religious concepts, they are generally content to leave religious practices alone. But even this statement has important exceptions, and though one of them fits Burnet's thesis, the rest go dead against it.

In Empedocles it is the mystic, not the *physiologos*, who is exercised about the cult. His heart-wringing appeals for a religion undefiled by animal sacrifices and the eating of beans are inspired by the Orphic piety of his *Purifications* which admits of no rational connection with the scientific temper and doctrine of his work *On Nature*.[6] But in Xenophanes we find something quite different. When he calls nature 'God'[7] he is asserting no 'mere' personification, but a doctrine which has urgent religious relevance, since it prompts him to attack the traditional beliefs as both irrational and irreverent.[8] It is impious, he says in effect, to speak about the gods

[5] In a good cause: he was combating the error, then prevalent in some quarters, 'of deriving science from mythology' (p. 14).

[6] See below, Section V. On the relation of Empedocles's *Purifications* to Orphism see *e.g.* W. Kranz, 'Vorsokratisches III', *Hermes* 70 (1935) at pp. 112-115.

[7] Aristotle, *Met.* 986 b 24, 'looking at the whole *ouranos*, the One, he said, is god'.

[8] B 1.13-14, 'Pious (εὔφρονας) men must first hymn god with reverent (εὐφήμοις) myths and pure words'. Which myths he considered *ir*reverent is clear from lines 21-23 of this fragment and B 11, B 12. My translation of εὔφρονας differs from the usual rendrings ('joyful' in Burnet and Kathleen Freeman), but is justified both by the context and by such usage as in Aeschylus, *Choephoroi* 88, πῶς εὔφρον' εἶπω, πῶς κατεύξομαι; εὐφήμοις = 'auspicious, of good omen' (Liddell & Scott, *s.v.*). Here, as in the following 'pure' (καθαροῖσι), Xenophanes is reinterpreting current religious terms, transposing them into the framework of his own rational religious beliefs. The word 'god' in the citation is not necessarily the One God of his philosophy of nature. As Grube observes in another context (review of Jaeger's *Paideia* in *American Journal of Philology* 78 [1947], p. 211, n. 17), 'ὁ θεός no more implies the existence of one God than ὁ ἄνθρωπος the existence of only one man. . . Both are generic'. This is quite

as Homer and Hesiod do, implying that *his* doctrine sets general standards for pious utterance. Heracleitus goes much further when he blasts away not only at what people say about the gods, but at what they do in their most sacred rites.[9] Such modes of worship offend not only his reason, but his religious sense ; they are not only ' madness ' (B 5, B 16), but sacrilegious madness, ' unholy mysteries ' (B 14). There is a strong implication here that there can and ought to be a different form of worship which would qualify as ' holy ' ; and this is confirmed by a passage in Iamblichus : ' I distinguish two kinds of sacrifice : first, those of the completely purified, such as would happen rarely with a single individual, as Heracleitus says, or with a handful of men ; secondly, the material . . .'[10] We need not take this as a wilful preference for solitary worship. It is more likely an expression of Heracleitus's despair of the capacity of the ' many ' to understand what he was talking about and to act accordingly. In any case, it is clear that the ' divinity ' of his World Order[11] is seriously meant as a genuine religious object which *could* be worshipped by the enlightened.

Nor will Burnet's appeal to Hesiod support his thesis. Certainly many divinities of the *Theogony* were not worshipped ; but the same could be said of scores of figures in the traditional mythology which no one would term ' non-religious '. A Greek might know of no local cult to Sun or Moon, and might even think with Aristophanes[12] that none existed throughout the whole of Greece, and still be outraged by a denial of their *bona fide* divinity.[13] Certainly, too, many of Hesiod's figures are personifications of natural or human phenomena ; but to say they are ' mere ' personifications is to confuse the issue. What is there more typical of Greek religion than the personification of winds, springs, rivers, earth, season, graces, love, victory, justice, peace, etc., whose religious vitality is attested in the cult ?[14] It is not Hesiod's verse that personifies everything from Lightning and Thunder to Sleep and Fear and Rumour, but the religious attitude of his people which feels the world as the theatre of super-natural and super-human forces. When Hesiod fills out the divine genealogies with innumerable

clear here, since the fragment shifts to ' gods ' in line 24. The relation between the ' One God ' and the many ' gods ' in Xenophanes is obscure. All we can get from the fragments is that the moral, non-anthropomorphic properties of the ' One God ' are normative for the ' gods ' as well.

[9] Attacks on purificatory rites and on image-worship, B 5 : on the mystery cults, especially those of Dionysus, and magicians, B 14, B 15. In B 92 I follow H. Fraenkel in ascribing only the words ' Sibyl raving mouth ' to Heracleitus : ' raving ' (*mainesthai*) is the antithesis of Heracleitean *logos*, *sophie*, and is used in his denunciation of mystic rites at B 15. Diels's (and the usual) editing of this fragment would make the raving Sibyl the prototype of Heracleitean wisdom !

[10] B 69 ; omitted in Burnet, as W. K. C. Guthrie observes, *Orpheus and Greek Religion* (London, 1935), p. 230.

[11] B 67, B 102, B 114, and see H. Fraenkel, ' Heraclitus on God ', *Trans. Amer. Philol. Ass.* 69 (1938), pp. 230-244.

[12] *Peace* 406 ff.

[13] Cf. the decree of Diopeithes, Plutarch *Pericles* 32 ; and Plato *Ap.* 26 de.

[14] See L. R. Farnell, *Cults of the Greek States* (London, 1909), Vol 5, Chapter 11 and notes. When Aristophanes jokes, " pour a libation to Stupidity " (*Knights* 221) he is not even lampooning this habit of mind ; he is just taking it for granted.

persons, some of whom doubtless never figured in earlier mythology, he is simply pursuing the logic of this animistic view of nature and life. They all belong to the same 'race' as the gods of the cult, they all have some share, great or small, of that mysterious power which exalts divine beings above the rigid limits of natural necessity.[15]

And this is precisely what, on any theory, Heracleitus (for example) did *not* mean, when he called his World Unity 'god'. What then *did* he mean? Burnet's theory stops him from so much as asking the question, and leaves him with a blind spot for that part of pre-Socratic thought which is its unique contribution to religion. Thus he can see no more in Xenophanes than a denial of 'the existence of any gods in the proper sense'; the words 'One god' mean 'No god but the world' (p. 128). The result has the effect of a distortion. It turns the pre-Socratics into purely 'scientific' thinkers, ignoring the fact that, for better or for worse, their 'science' was far more (and less) than science, in our sense, has any business to be.[16] Doubtless their concept of nature as a self-enclosed, self-regulative system is the intellectual foundation of science, and they who built it out of incredibly inadequate materials have every right to be considered pioneers of the scientific spirit. But neither can we forget on this account that those who discovered this concept of nature believed that they found in it not only the principles of physical explanation, but also the key to the right ordering of human life and the answer to the problem of destiny. They began with the faith that nature itself was animated[17] by that Wisdom and Justice which the most enlightened conscience of their race had imputed to Zeus. So long as this faith lived they could transfer to nature the reverence hitherto reserved for Zeus and could therefore call nature 'god' without indulging in an empty figure of speech.

[15] See below, n. 90; and cf. E. Ehnmark, *The Idea of God in Homer* (Upsala, 1935) p. 11: 'the criterion of divine power is its supernatural power'. Jaeger (*op. cit.*, above, n. 2) holds that Hesiod's gods 'are really subject to what we should call natural law' because they have all been 'generated by the mighty power of Eros'. The premise goes a long way beyond anything in the *Theogony*, where Eros gets five lines altogether (120-123, 201-202). But even if we choose to read the potency of Eros into every 'birth' in the *Theogony*, we are still a long way from 'natural law', in a realm where the natural pattern of sexual generation can be broken *ad libitum* without occasioning the slightest surprise, as e.g. in the birth of Athena, or the birth of Erinyes, Giants, Nymphs, and Aphrodite (183 ff.), to say nothing of the (presumably asexual) generation of the originals, Chaos, Earth, Eros himself, and Night.

[16] This is recognized by Burnet himself in a remarkable passage. In *Greek Philosophy* (London, 1914) pp. 11-12, he notes that Greek philosophy 'is dominated from beginning to end by the problem of reality (τὸ ὄν)', a problem 'which at once takes us beyond science', and adds: 'Greek philosophy is based on the faith that reality is divine. . . It was in truth an effort to satisfy what we call the religious instinct'. Here is impressive evidence that the vision of this great scholar was not blinkered by his theory. Had he pursued this line of thought he would have forestalled my objections. Unfortunately he did not; on p. 29 of this later book he repeats, almost verbatim, the statements, made many years before in *Early Greek Philosophy*, which I have criticized here.

[17] I use the word advisedly. See my 'Equality and Justice in Early Greek Cosmologies', *Classical Philology* 42 (1947), p. 177 and notes.

II

There is a kind of poetic justice in the fact that Professor Jaeger's *Theology of the Early Greek Philosophers* should have been delivered as the Gifford Lectures (1936) at St. Andrews where Burnet had held for many years the chair in Greek. It is not polemical in tone, and there is no mention of Burnet except at incidental points where Jaeger agrees with him as often as not. But it is doubtless the strongest reply Burnet's thesis has yet received,[18] and it is all the more telling for keeping clear of the fanciful speculations that marred earlier statements of the anti-thesis.[19] It works with the sound methodological principle that pre-Socratic philosophy is generally marked by close-knit coherence and should therefore be studied 'as an indivisible organism, never considering the theological components apart from the physical or ontological' (p. 7). Coming as it does from one of the foremost living students of Greek thought, it cannot fail to command attention. It will remain for years to come one of the 'standard' books with which every student of the pre-Socratics will have to deal. Such a work does not lend itself to summary, and does not need it. The many insights by which it illuminates and enriches our understanding of the first chapter of Western philosophy can best be appreciated by those who will read the book as a whole, with the leisureliness and care it invites and deserves. I shall therefore forgo here any thought of surveying its positive contributions and keep to a more limited and somewhat invidious task. I wish to discuss briefly those aspects of the author's thesis which strike me as open to grave objection. The critical tone of my remarks will not be misunderstood, I hope, as any reflection on the solid value of the work.[20] It is merely incidental to the expression and documentation of an alternative point of view which agrees with Jaeger against Burnet about the authenticity of the religious component in pre-Socratic thought, but prefers to interpret it along somewhat different lines.

My main question springs out of the very use of the word 'theology' both in the title and constantly throughout the book as a description of the religious ideas of the pre-Socratics. The word, of course, means no more than 'account of god' and could be so applied to any doctrine of divinity. But the historian of ideas must scruple to use fundamental terms

[18] For a sample of the clash compare their views of Xenophanes. Burnet: 'He would have smiled if he had known that one day he was to be regarded as a theologian' (*Early Greek Philosophy*, p. 129); Jaeger: 'only as a theologian can he be really understood' (p. 49).

[19] I am thinking particularly of K. Joel's *Der Ursprung der Naturphilosophie aus dem Geiste der Mystik*, Jena, 1906, whose title tells its own tale, and F. M. Cornford's *From Religion to Philosophy* (London, 1913), the early work of a great scholar which over-works the hypothesis that the categories of Greek philosophy were 'already implicit' in Greek mythology, and is further misled by uncritical borrowings from the then fashionable school of French sociology. It remains for all its faults a valuable, suggestive study.

[20] One's best testimony to the value of the work of a serious scholar is to take it seriously, either by way of assimilation or else by way of criticism where one is compelled to disagree. The former I have done repeatedly in earlier published work, expressing my personal indebtedness to Jaeger for many things I have learned from him, and will do so again both in this paper and hereafter.

without regard to their exact historical fitness. He must ask himself in this connection: Would the *physiologoi* themselves have used the word of their own speculations about divinity? We know that Aristotle so terms his metaphysics *qua* science of divinity,[21] and may assume that Plato would not be averse to have his arguments about the existence and providence of the gods described as 'theology.'[22] But we also know that neither Aristotle nor Plato assumed so much for the natural philosophers who preceded them. As Jaeger observes of Aristotle, 'in historical contexts . . . he used the term to designate certain non-philosophers such as Hesiod and Pherecydes, whom he contrasts sharply with the oldest genuine philosophers or physicists';[23] and Plato's practice is quite similar.[24] The basis of the contrast in Aristotle's mind seems to be mainly that the theologians talk myth, while the philosophers speak the rational language of natural inquiry. Jaeger would then seem to be on safe ground in taking this over, and so juxtaposing to the mythical theology of the older poets the rational or natural theology of the philosophers. But Aristotle never talks that way. As a *historical* term, 'theology' for him (and for his school) has a clearly marked denotation which excludes the *physiologoi*. Why so? The answer is not to be found in Aristotle, who never stopped to analyse the problem.[25] We can get at it only by looking at the actual work of the theologians themselves, beginning

[21] *Met.* 1026 a 19; 1064 b 3.

[22] Jaeger holds that the very word *theologia* was coined by Plato (and adds, here unconsciously controverting the major thesis of his own book, 'and he [Plato] evidently was the creator of the idea', p. 4). But Plato is a fastidious linguist. When he makes up a word he is very self-conscious about it (e.g. at *Theaet.* 182 a). There is no hint of terminological innovation at *Rep.* 379 a; the word is introduced by Adeimantus (not Socrates) as a variant for 'tales about the gods': Socrates, 'The founders ought to know the canons (*typous*) in accordance with which the poets should tell their stories (*mythologein*) [*sc.* about the gods] . . .'; Adeimantus, '. . . What then are the canons for stories [or, accounts] about the gods (*typoi peri theologias*)?' The casualness with which the word is used here (and, curiously enough, never again in Plato in contexts such as *Laws* X where we should most expect it had it been 'coined' to indicate 'the importance from Plato's point of view of the mental attitude which it tries to express,' Jaeger, p. 194) suggests that it was in common use at the time. And I see no good reason for doubting that those who 'spoke about the gods' (*hoi legontes peri theon*, Plato, *Laws* 886 c, of the theogonists; cf. Empedocles B 131, *amphi theon . . . logon*, of his own theogony) would be referred to as *theologoi* long before this time; similar compounds with *-logos* such as *chresmologos*, *meteorologos*, occur in fifth-century texts; Philolaos B 8, if genuine, would settle the point. Whether *theologia* was used as the title of any of the sixth-century theogonies (as Diels assumes, e.g. in the case of Pherecydes) is a different, and secondary, question, which cannot be settled from the available evidence.

[23] He adds a little further: 'Eudemus [of Rhodes, the first writer of a history of theology] would never have included his master Aristotle, the creator of metaphysics or theology in the philosophical sense, among the theologians', p. 5; still less would he have included Anaximander or Anaxagoras.

[24] At *Laws* X. 886 cd he distinguishes between (*a*) those who 'speak about the gods' and propound 'theogonies' and (*b*) those 'recent wise men' (*νέων καὶ σοφῶν*) whose cosmology is materialistic, further identified later at 891 c as 'all the men who have undertaken natural investigation'. The distinction, assumed at the beginning, is rigorously observed in the body of the ensuing argument which explicitly ignores the former (886 d) to concentrate on the refutation of the latter (886 e ff.).

[25] Neither did Plato. But his practice comes much closer to what, I shall argue, is the real difference, taking it for granted that the theologians are talking about the gods of the cult (cf. *Tim.* 40d-41a) while the *physiologoi* are either downright atheists or else deny (the primary assumption of the cult) that the gods 'care for human affairs' (886 e).

with Hesiod whose fully preserved text and well known impact on Greek thought gives us our best basis for judgment.

When Herodotus (2.53.2) speaks of those who 'composed a theogony for the Greeks and gave the gods their names and divided their honours and occupations and designated their forms', he gives pride of place to Hesiod.[26] His very wording here echoes the *Theogony*: 'Tell how at the first the gods and earth came to be, . . . and how they divided their wealth and shared their honours'.[27] The gods Herodotus is thinking about are quite specifically the gods of Greek worship. Hesiod's range is broader. It takes in gods whose connection with the cult is marginal, indeterminate, or wholly non-existent. But the ultimate concern of the *Theogony* is with the major deities of the cult, 'the gods, givers of good things'.[28] The great drama of the *Theogony* turns on the 'struggle for honours'[29] between Titans and Olympians. It tells how the former lost to the latter just that 'wealth' and 'honour' whose possessors qualify as cult gods by virtue of having 'good things' to give to those who honour them with sacrifice, libation, and prayer.

There is no need to slight in this connection the cosmogonic and cosmological interests of the *Theogony*. An adventurous mind could hardly inquire into the origin of the gods without passing over into the kindred question of the origin of the world. This would come all the more naturally to one who thinks, as Hesiod does, of the four main articulations of nature, Earth, Sky, Sea, and Night, as themselves divine beings, whose generation accounts at one stroke for both the origin of the physical universe and the generation of the whole 'race' of the gods. Thus theogony broadens out easily into cosmogony, and even passes at times into pure cosmology, as in the famous description of the geography of the universe (720 ff.), with equidistant intervals from Sky to Earth and from Earth to Tartarus, and its remarkable account of the 'sources and limits' in Chaos of Earth, Sky, Sea, and Tartarus (736 ff.). One may recognize all this, and still assert that the great bulk of the epic is not cosmology or cosmogony, but theogony and theology.[30] Its primary purpose is two-fold: first, to sort out the motley mass of divinities, both the ones that Hesiod found ready-made in cult and those added by his own inspired fancy, into well-defined stems of descent; and secondly, to vindicate the reigning order among the gods. The latter not only establishes the supremacy of the gods of the cult over all the rest,

[26] An earlier testimony of the crucial role ascribed by the Greeks to Homer and Hesiod in the shaping of the popular creed comes from Xenophanes, who makes them the main butt of his attacks (B 11, B 12).

[27] 108 ff.; I follow Solmsen (*Hesiod and Aeschylus*, Ithaca, 1949, p. 8, n. 7) in accepting the genuineness of vv. 111-114. For 'honour', 'gift' (τιμή, γέρας, δῶρον), 'lot' (μοῖρα) among the gods, see also vv. 74, 204, 393-399, 413, 882, 885.

[28] Vv. 46, 111; also 633 and 644 where the 'givers of good things' are clearly identified with the Olympian faction.

[29] V. 882. In Homer (*Il.* 15.165 ff.) the 'lots' and 'honours' of the gods are fixed by primordial *moira*. In Hesiod they have to be fought for and apportioned as spoils of war.

[30] Cf. Solmsen, *op. cit.*, p. 58: 'it is wrong to call the *Theogony* a cosmogonic poem',

but ends the quarrelsome anarchy of the Homeric pantheon and assures law and order on Olympus under the stern authority of Zeus. Hesiod's audience is now assured that each cult god has and keeps his proper province, so that each may be worshipped without risking offence to his peers and thus causing more trouble than he is worth.

This is what makes Hesiod's work a theology in a sense which cannot, by any stretch, take in the *physiologoi*. It is not merely that his forms of thought are mythical, his standards of rationality more primitive, his conclusions more traditional than theirs. All these things are true, but do not get at the heart of the difference, which is just this: The divinity of the *physiologoi* has no direct connection with the public cult, and is indeed so independent of it as to leave the very existence of the cult-gods in doubt and expose the most sacred ritualistic acts to Heracleitus's scornful rejection.[31] Hesiod's teaching of divinity, on the other hand, puts the objects of the public cult at its centre. The information it conveys and the assurance it offers about the divine order makes the acts of the cult sensible propositions to a thrifty, calculating, peace-loving worshipper, such as Hesiod himself and the rural public to which he spoke.[32] What the 'Greeks' got from his *Theogony*—not later philosophers, like Aristotle, who regarded it so patronizingly as uncouth, archaic cosmology, but the people at large who read it as a religious text—was a creditable and satisfying account of the gods they worshipped.

III

It is just this relation to the public cult that Jaeger ignores in his account of Hesiod's theology[33] and systematically belittles when he gets to the theogonies which are contemporary with the first generations of pre-Socratic philosophy. His thesis here is that these 'theogonic writers cannot be understood except in the light of their close reciprocal relationships with the philosophers of their own period' (p. 57). Now we do not know what influence, if any, these theogonies had on the philosophers, nor does Jaeger profess to tell us.[34] Nor is there any evidence of philosophical influence

[31]The average man would at least gather from the teaching of the *physiologoi* that it makes the worship of the traditional gods perfectly pointless. Cf. the reaction of Strepsiades (*Clouds* 425-26), when converted to the new philosophical divinities: 'I absolutely will not talk to the other gods, not even if I run into them on the street; I will not sacrifice, nor pour libations, nor offer frankincense to them'.

[32]Hesiod's work is not, of course, apologetics for the cult; none would be needed where no doubt of its validity has yet arisen. But when he comes across a specific feature of the cult which must have struck him and his hearers as decidedly queer, he is ready to explain away the difficulty with an aetiological myth: vv. 533 ff., and Solmsen, *op. cit.*, pp. 48-49, for the interpretation of the Prometheus story as an aetiological myth.

[33]Though not in *Paideia* (Vol. I, 2nd Eng. edition, New York, 1945, p. 65), where he was not preoccupied with the thesis of the present book.

[34]Reconstructions of such influence are not lacking in the literature. With the single exception of the influence of Orphism on Pythagoreanism, they are wholly conjectural, and amount to nothing more than the detection of certain supposed resemblances between the theological and philosophical cosmogonies. For the best statement of this point of view see Guthrie, *op. cit.*, Chapter VII. I can only record the impression that the ingenious 'parallelisms' which are traced here between, say, Anaximander

on any of the theogonies prior to that of Pherecydes.[35] With this one exception, all that remains of their ' close reciprocal relationships ' with the philosophers is that they dealt with the common problem of the origin of the world, the nature of the gods, the destiny of man. But their attack on these problems is decidedly different. Is the difference merely that they tell myths, while the philosophers do not? If that were all, Jaeger might be justified in treating them as a half-way house between Hesiod and Ionian *physiologia*. But in so doing he misses—ignores or explains away[36]—the remarkable fact that these theologies are one and all ascribed to men who, as historical or legendary characters, were leading figures in the new religious movements and activities of the time. Orpheus is the founder of mystic rites par excellence ;[37] so is Musaeus, and also a patron of cathartic medicine.[38] Of the historical figures Epimenides is the famous purifier of Athens, prophet, founder of shrines ;[39] Onomacritus a no less famous expert in

and the Orphic cosmogony are (*a*) unconvincing at such points as the alleged correspondence between a supposed *gonimon* in Anaximander and the Orphic Egg or between Anaximander's Moist and the Orphic Eros and (*b*) constitute no proof of an ' indelible impression ' which the Orphic theogony is here (p. 224) said to have made on Anaximander, and cannot even be taken as evidence of Anaximander's acquaintance with this cosmogony. If we could generalize from the fragments of Xenophanes and Heracleitus, we would have to say that Ionian philosopgy ignores the sixth-century theogonies : Xenophanes makes Homer and Hesiod the butt of his polemic against the poets (above, note 26) ; Heracleitus inveighs against the same pair but names also Xenophanes, Hecataeus, and Archilochus (B 40, B 42, B 56, B 57, B 105, B 129) ; neither of them mentions Orpheus or Musaeus or any of the rest except Epimenides, who is mentioned by Xenophanes as having lived 154 years (B 20).

[35]Nothing in Jaeger to this effect except for (*a*) the conjecture that the two Titans in Epimenides B 5 are Oceanus and Tethys followed by the further conjecture, ' possibly the philosophy of Thales has been influential here ' (p. 66), and (*b*) the assertion that ' as in the older [*sc.* Pythagorean] philosophy, Air [in Epimenides B 5] is thought as the void ' (p. 65). (*a*) needs no comment. As for (*b*), there is no evidence in the text that ' air is thought as the void ', nor, if there were, would it be chronologically plausible to infer Pythagorean influence on a sixth-century theogony ; but perhaps Jaeger's statement is not intended as assertion of philosophical influence, which would then reduce the ' close ' influence of philosophy on the theogonies prior to Pherecydes to the compound conjecture in (*a*).

[36]On the ground (p. 60) that the nominal authorship is frequently demonstrably false. But what matters here is (*a*) the fact (not the veracity) of the ascription and (*b*) the use to which these writings were put, as, *e.g.*, by Orphic sectaries, prophets and priests (Eur. *Hippol.* 925-27 ; Plato *Rep.* 364 e and *Meno* 81 a-c).

[37]Eur. *Rhesus* 943-44, ' Orpheus taught her [Athens] the torch-processions of mystic rites ' ; Aristoph. *Frogs* 1032-33, ' Orpheus taught us mystic rites and to abstain from slaughter ; Musaeus the healings of diseases and oracles ' ; Plato *Prot.* 316 d [ancient ' sophists ' assumed various guises, one of them being that of] ' those occupied with mystic rites and oracles, followers of Orpheus and Musaeus ' ; Ephorus *ap.* Diod. 5.64.4 : ' he was the first to introduce mystic rites to the Greeks '. For the interpretation see especially I. Linforth, *The Arts of Orpheus*, Berkeley, 1941, pp. 291 ff. Jaeger's remark (p. 60), ' he [Orpheus] was not a specifically religious figure but rather a mystical singer of primeval times ', seems to me to pose a false contrast. Orpheus was both singer and religious figure ; one *could* refer to him *qua* singer ; but is there any instance where a *theological* doctrine would be referred to him *qua* mere singer ? Jaeger himself assumes without question a little later that the account of the soul in the ' so-called Orphic poems ' (Arist., *de An.* 410 b 22 ff.) is ' Orphic ' in the specifically religious sense of the word.

[38]A glance at the fragments in Diels-Kranz will show how persistently he is associated with the foundation of mystic rites, especially those of Eleusis. On his association with religious (purificatory) healing Aristoph. *Frogs* 1033 is decisive.

[39]See the fragments in Diels-Kranz.

oracles ;[40] Pherecydes's religious ventures are obscure, but we do know his reputation as a wonder-worker.[41] Is it likely that theogonic writings would be imputed to such figures if there were no connection between the religious speculations contained in these works and the religious enterprises of their reputed authors ?

The only way we can account for both the unprecedented proliferation of such a literature and the peculiar authority attached to it by the sectaries of the new cults[42] is to consider how urgently the sponsors of new rites would need to explain and justify their meaning over against the massive authority of the traditional ceremonials sanctioned by long established usage. Thus the new worship of Dionysus produced ' sacred tales ' (*hieroi logoi*) which ' explained ' to the Greeks ' both the name of Dionysus and the sacrifice and the procession of the phallus '.[43] A similar function was served by the tales which expounded the Orphic belief in reincarnation: the Platonic Socrates says he heard them from ' men and women wise in things divine ' whom he identifies expressly as ' priests and priestesses who have made it their business to give an account of the matters with which they are occupied '.[44] Even more instructive, I think, is Plato's account of the itinerant prophets at *Rep.* 364 b 2 : they appeal to Hesiod and Homer for support on some doctrinal generalities ; but they produce ' a mass of books by Musaeus and Orpheus ' as authorities for their *ritual*.[45] The bond

[40]Herodotus 7.6, ' a *chresmologos* who set in order the oracles of Musaeus '. I do not know why Diels-Kranz do not include his fragments among those of the theogonists ; see the relevant testimonies in Kern, *Orphicorum Fragmenta*, Berlin, 1922, pp. 55-56, and for the interpretation, M. P. Nilsson, ' Orphism and Kindred Movements ', *Harv. Theol. Review* 28 (1935) at pp. 195-198.

[41]Arist. frag. 191 Rose says of Pythagoras : ' and he did not hold back from Pherecydes's mircale-mongering '. Theopompus's *Mirabilia* included a section on Pherecydes (Pherec. A 1 and A 6).

[42]Eur. *Hippol.* 954.

[43]Herodotus 2.48.3 ff. The original explanation Herodotus attributes to the quasi-mythical Melampous who, he thinks, imported the cult from Egypt ; but he adds that it was improved by ' subsequent wise men (*sophistai*) '. How close the bond between such ' sacred tales ' (*hieroi logoi*) and the cult might be in certain cases we learn from another report in Herodotus where the explanatory ' sacred tale ' appears to be actually incorporated in the mystic rite (2.51.4). (One cannot help comparing in this connection his account of Persian sacrifices [1.132.3] where the recitation of a theogony by a *Magos* is part of the ritual ; this report is now confirmed, I think, by students of early semitic ritual, who show the ceremonial function of Babylonian and Palestinian myths of Creation : for the references see Cornford's essay, ' A Ritual Basis for Hesiod's *Theogony* ' in *The Unwrit en Philosophy*, Cambridge, 1950, though Cornford's interpretation of Hesiod along similar lines strikes me as forced). That readings from sacred *biblοi* were a part of the ceremonial in some fourth century mystic rites is clear from Demosth. 18. 259.

[44]*Meno* 81 a. The importance of this passage was called to my attention by Linforth, *op. cit.*, p. 294, whose interpretation I am largely following here.

[45]*βιβλων δὲ ὅμαδον παρέχονται . . . . καθ'ἃς θνηπολοῦσιν*, literally, ' they produce a pile of books . . . in accordance with which they perform their ritual'. I follow the general view in taking the ' they ' of this sentence, to be the ' mendicant priests and soothsayers ' of 364 b 5 ; I am not convinced by Linforth's suggestion (*op. cit.*, pp. 90-91) that the subject is the holders of the general view introduced at 364 a, since the people in question here are obviously priests, while the general view would be that of the public at large. Incidentally, I believe that Lindsay's and Cornford's rendering for *agyrtai*, ' mendicant priests ', is correct and clearly supported by the dictionary (Liddell & Scott, new ed., s.v.) : from *ageiro*, to collect, *agyrtes* generally ' beggar ', in special contexts ' begging priest '). P. Boyance, ' Platon et les Cathartes Orphiques ', *Révue des Etudes Grecques*

of such a literature with the cult is not only as close as Hesiod's, but closer, since it moves into that area of religious procedure which Hesiod had so largely left alone. But I am not suggesting that we should think of the major theogonies as *ad hoc* fabrications to explain this or that rite. We may certainly credit their authors with vigorous, adventurous minds that would hardly be satisfied with piecemeal aetiologies, but would weave their interpretations of particular myths or rites into a far-flung pattern of creation and salvation.[46] The few surviving fragments attested by good authorities suggest that these theogonies were no less ambitious in scope than Hesiod's epic.[47] Vast canvasses they must have been, thronged with gods and goddesses, drawing the whole universe into their design, accounting in their own fashion for the origin and nature of gods, world, and men. But somewhere along the line their story would make good the claim of the religious enterprise favoured by those who composed or recited it and undermine, by implication or open attack, the claims of their rivals. Such a hypothesis will account for the known facts. And though the dearth of evidence makes it impossible to prove it, it can at least be partially documented in fragments of the one theology whose outlines can be reconstructed with some measure of confidence, that of Pherecydes.

Following Aristotle's famous statement that Pherecydes 'does not say everything in myths',[48] scholars are generally agreed that this comes closer

55 (1942), at p. 225 and ff, rightly insists that there is no ground for taking the word to mean 'charlatan, quack'; Plato takes obviously a very harsh view of these people, but he is not contrasting them as bogus-Orphics with 'real' Orphics. On the other hand, I see no reason to assume that Orphism was anything like a coherent, homogenous movement; not only was Orphism itself 'but one of the many currents of mystic and cathartic beliefs emerging in the archaic age' (Nilsson, *op. cit.*, p. 185), but there were different currents within it, so that Plato could speak with deep respect of some Orphic functionaries in the *Meno* and adopt its doctrine of σῶμα-σῆμα (*Crat.* 400 c) in the *Phaedo*, yet still feel quite free to vent his scorn on the itinerant soothsayers of the present passage.

[46] I hope this will meet Professor Rose's objection ('Theology and Mythology in Aeschylus', *Harv. Theol. Review* 39 [1946] at pp. 15-16) that Linforth's view (referred to at note 44, above) is not 'the whole truth'. Rose speaks of the theologians as 'minds not so radically tempered as to insist on going to the very foundations of the subject, in this case their own religion . . . ., taking nothing for granted and arguing from first principles, yet sufficiently alert to ask themselves what the time-honored names, legends, and rites meant' (p. 16). This is perfectly acceptable except that in two respects it would hardly apply to the major theogonists who, unlike such poets as Pindar and Aeschylus, (i) *did* go in their own way 'to the foundations of the subject' and (ii) were concerned with more than the 'time-honoured names, legends, and rites' since their data would include new rites, legends, and even (as certainly in Pherecydes) names.

[47] Fully confirmed in the Aristophanean imitation of Orphic theogony at *Birds* 685 ff., which is modelled on Hesiod not only in the scope and style of the theogony but also in the immediately following (709 ff.) parody of *Works and Days*; see *e.g.* Rogers's notes *ad loc.* The Aristophanean theogony, incidentally, also confirms the general relation of theogony to cult: the Birds' claim to world sovereignty having been asserted against Zeus on the ground that they are 'more ancient and older than Cronus and Titans and Earth' (467-68) and therefore (562) deserve to be worshipped above the (traditional) gods, the theogony in due course puts their claim to cosmic priority into the framework of a full-fledged account of creation.

[48] *Met.* 1091 b 9. But note that Aristotle does not consider him any less of a 'theologian' on this account: he puts him in the same company with the Magi, whose connection with the Persian cult we know from Herodotus (above, note 43).

to philosophy than any of the surviving theogonies.[49] But does this justify the statement that the names of his cosmogonic deities ' are merely a transparent archaistic veil which by no means obscures their purely speculative character ' ?[50] Speculative some of them certainly are. But are they ' *purely* ' speculative ? Have they no definite connection with the cult ? This it seems is what Jaeger is concerned to assert, presumably on the ground of borrowings from the philosophers. He holds that Pherecydes was influenced by Anaximander in substituting the beginningless, ever-living Zas, for the Hesiodic Zeus, great-grandson of Earth, and also in turning the traditional Cronus into the time-god, *Chronos*.[51] But would these transformations, whatever their debt to philosophy, serve ' merely [to] express the recent utterances of speculative thought ' (p. 69) ? The first thing we are told about Zeus (B1 and B2) is that he gave *Gē* (Earth) as a wedding gift[52] to *Chthoniē* (another name for Earth, here co-original with Zeus and *Chronos*) and that thus *Chthoniē* acquired the ' name ' *Gē*. Now Wilamowitz has pointed out that in Mykonos, hard by Pherecydes's native Syros, there is a cult to *Gē Chthoniē*, whose apparent redundancy would be very properly

[49]See e.g. von Fritz in Pauly-Wissowa *Realenzyklopaedie, s.v.* ; Kathleen Freeman, *Companion to the Pre-Socratic Philosophers* (Oxford, 1946) pp. 36 ff.

[50]Jaeger, p. 72 ; asserted (in the concluding paragraph of the chapter) of the sixth-century theogonies generally, but intended (I assume) particularly of Pherecydes, since it would apply much less to any of the rest.

[51]Jaeger I think has a reasonably good case in deriving Pherecydes's doctrine of the eternity of the cosmogonic deities from Anaximander (pp. 67-68), though we cannot exclude the possibility that such an idea occurred independently to Pherecydes. The case for deriving *Chronos* from Anaximander (p. 68 and notes) seems to me quite another matter. There is simply nothing in Anaximander's system to correspond to Time as a substance, still less a cosmogonic one ; and this, I think, should be the decisive consideration in our interpretation of the closing words of Anaximander B 1, *κατὰ τὴν τοῦ χρόνου τάξιν*, on which Jaeger bases his argument. That these words are a verbatim citation has been questioned in an acute paper by F. Dirlmeier, ' Der Satz des Anaximandros ', *Rhein. Mus.* 87 (1938), pp. 376-82, whose arguments, though answered in part by K. Deichgraeber (' Anaximander von Milet ', *Hermes* 75 [1940], at pp. 16-17) make it hazardous to base any argument on the assumption that the words in question are Anaximander's own. Assuming that they are, Jaeger insists that the word *taxis* has the active sense, ' ordinance ' or ' decree ', rather than the merely passive sense ' order ' (p. 35 and notes ; also earlier in *Paideia*, I, 2nd English ed., New York, 1945, p. 455, note 50 ; a similar view had been taken still earlier by H. Fraenkel, ' Parmenidesstudien ', *Goett. Nachrichten*, 1930, p. 183). I concede that if *taxis* was in the original fragment it probably had the active sense ; but if so, it could only have been pure metaphor (for the periodic, cyclical order of ' reparation '), part of the ' poetic language ' to which Theophrastus so pointedly refers in making the citation. It could not be literally meant because the idea of Time as an agent, issuing ordinances and decrees, has absolutely no place in the system as we know it. I conclude, accordingly, that there is no evidence for Jaeger's assumption that Pherecydes borrowed his Chronos from Anaximander, since no one would seriously argue that Pherecydes copied a cosmogonic deity from an incidental metaphor in a physicist. As for the equation of *Chronos* Cronus, it is *not* asserted in the fragment ; but it is in the testimonies (A 9), and parallels the equations Zeus = Zas and *Ge* = *Chthonie* ; one may perhaps conjecture that *Chronos* became Cronus through Zas's intervention, as in the transformation of *Chthonie* into *Ge*. I agree with Gomperz (' Zur Theogonie des Pherekydes ', *Wiener Studien* 47 [1929], at p. 16, n. 6) that Wilamowitz's sententious ' Ich halte einen Urgott Zeit im 6. Jahrundert für undenkbar ' is sheer dogmatism.

[52]*Ge* is thus *Chthonie's* ' gift of honour ' (*γέρας*, B 1 ; *τούτῳ σε τιμῶ*, B 2). Various cities claimed the honour of having been Zeus's wedding-gift (Acragas, scholiast to Pind. Ol.2.10 ; Thebes, Euphorion *ap.* scholiast to Eur. *Phoen.* 687 ; both from Zeus to Persephone *εἰς ἀνακαλυπτήρια*). Pherecydes extends this idea, making the whole earth a wedding-gift to *Chthonie*.

explained here by Pherecydes's theology : dark, barren *Chthoniē* becomes the multi-colored, fertile Earth when fructified by Zas, the principle of life.[53] Here the Hesiodic bestowal of ' honours ' by Zeus to other deities[54] is merged with the notion of a divine marriage (*hieros gamos*), the prototype both of the Greek marriage-rites and of a solemn fertility-festival, the *hieros gamos*, celebrated in various parts of Greece.[55] The deities to which the *hieros gamos* is now referred by Pherecydes, including the explicit reference to them of the presentation of the gifts of Unveiling (the *Anakalyptēria*) in the nuptial rites,[56] would surely be more than ' purely speculative ' entities, mere expressions of ' the recent utterances of speculative thought '. As for Cronus, he too is quite different from the Hesiodic figure, since he now fights against the Titans, retains possession of the heavens, and is there crowned king of all.[57] That Cronus is not, as in Hesiod, Zeus's prisoner in Tartarus, but his honoured associate in the upper world, may be asserted on good evidence as Orphic doctrine ;[58] and a fragment of Pherecydes explicitly connects the fight of *his* Cronus against the Titans with ' the mysteries about the Titans and the Giants who are said to have made war on the gods and the [*sc.* mysteries] in Egypt about Typhon and Horus and Osiris '.[59] Finally we have the testimonies of Pherecydes's teaching about the soul which Jaeger completely ignores—just why, I do not know. Cicero tells us that his doctrine of the eternity of the soul is the first extant in literature ; another source that he believed in transmigration ; a third

[53] ' Pherekydes ', *Preuss. Akademie der Wissenschaften*, Sitzungsber., Phil.-hist. Klasse, 1926, at p. 125 : *Glaube der Hellenen*, I, at p. 210.

[54] See above, note 27.

[55] See L. R. Farnell, *op. cit.*, I, pp. 184 ff. and notes ; and W. K. C. Guthrie, *The Greeks and their Gods* (London, 1950) pp. 53 ff.

[56] B 2 : ' from this arose the custom (*nomos*) among both gods and men '. Rose interprets the presentation of the gifts of Unveiling as ' in itself a rite of Union, for to give part of one's property is to give a piece of one's self and therefore a kind of communion with the recipient ', and adds that traces of the Unveiling-rite still survive in the marriage-rites in modern Chios (*Ancient Greek Religion*, pp. 33 and 146).

[57] B 4. The leader of the Titans is now Ophioneus, an obscure figure in Greek mythology, but mentioned also (as Ophion) in the theogony sung by Orpheus in Apollod. Rhod. *Argon.* 1. 496 ff. (= Orpheus B 16 in Diels-Kranz), as ' holding sway on snowy Olympus ' before he was expelled by the might of Cronus and ' fell into the waves of the Ocean '.

[58] It occurs in one of our earliest and best sources of Orphuc belief : Pindar's Second Olympian Ode (cf. also Pyth. 4.291). It is implied at v. 70, where the souls of the just ' pass by the highway of Zeus unto the tower of Cronus '. The life of the just here (vv. 62 ff.) ' not vexing the soil with the might of their hands, nor the water of the sea, to gain a meagre livelihood ' is pictured quite obviously as that of the ' age of Cronus ' (Hes. *Op.* 111 ff.), no longer a remote antiquity, as in Hesiod, but a perpetual present in the Isles of the Blest. (Hesiod, *Op.* 169-169 e Rzach, where Cronus, reconciled with Zeus, reigns over the Isles of the Blest, is generally recognized as a later interpolation : see Solmsen, *op. cit.*, p. 156, note 142).

[59] B 4. The ' mysteries about the Titans and the Giants ' must be Dionysiac and/or Orphic (Paus. 8.37.5, ' Taking the name of the Titans from Homer, Onomacritus both composed rites to Dionysus and made the Titans the perpetrators of the sufferings of Dionysus '). For the connection of Dionysiac and Orphic rites see Nilsson, *op. cit.*, p. 202 and ff. The reference to the Egyptian rites is to be understood in the light of the widespread Greek belief that various Greek divinities and rites, especially Dionysiac and Orphic, came from Egypt ; see *e.g.* Herodotus 2.48 (note 43, above), and Hecataeus of Abdera ap. Didorus 1.23 and 1.96, the latter including the statement that ' the rites of Osiris and Dionysus are the same ',

that he taught that duality of heavenly and earthly elements in the soul which would be, on any theory, the most obvious corollary to the belief in transmigration.[60] This dualistic conception of man would match and would doubtless be connected in his theology with the 'original [Zeus-*Chthonie*] dualism' which Jaeger rightly finds 'the distinguishing feature of Pherecydes' theory' (p. 69).

The same belief in transmigration and in a dualistic conception of the world recurs in Pythagoreanism, whose founder is presented by so many of our sources as the junior associate of Pherecydes.[61] Here for the first time we find a chapter of pre-Socratic philosophy which can be confidently classed as a theology, since its ultimate data were the hopes, rites, and tabus that centred about the doctrine of transmigration.[62] Like Epimenides,

[60]Listed under A 2 and A 5 in Diels-Kranz; fragments B 6 and B 8 also bear on his doctrine of immortality. The heavenly and earthly parts of the 'soul' (Aponius in A 5) is probably a reference to the dual nature of man's *life*, whose mortal part is earth and returns to earth, while its immortal part is 'heavenly' or 'aethereal' and returns to its heavenly source. There are many fifth-century instances of this belief, some of them listed in Gomperz, *op. cit.*, p. 24, note 18; also Pindar frag. 131: the 'body of all men is subject to over-mastering death', but the *eidolon*, which 'alone comes from the gods' remains alive (a clear reference to mystic faith, since the first line mentions the 'rite that releaseth from toil'; also in the well-known Orphic tablets from Petelia and Eleuthernai [Crete], B 17 and 17a in Diels-Kranz, 'I am the son of Earth and starry Heaven'.

[61]The references in W. Rathmann, *Quaestiones Pythagoreae, Orphicae, Empedocleae*, diss. Halle, 1933, p. 12, note 10.

[62]In his remarkably learned dissertation (cited in the preceding note) Rathmann has taken it upon himself to dispute the general view that transmigration was certainly taught by Pythagoras. His arguments on this score are completely unconvincing. Thus Dicaearchus's testimony is not discredited (as he suggests, p. 3 ff.) but on the contrary greatly strengthened by his personal disbelief in immortality and tendency to assimilate Pythagoras to his own preference for the 'practical life'. Rathmann offers no good reason to doubt the reference of Xenophanes B7 to Pythagoras in Diog. Laert. 8.36 (see W. Kranz, 'Vorsokratisches II', *Hermes* 69 [1934] at pp. 226-27) which is conclusive contemporary testimony to Pythagoras's belief in transmigration. A more serious argument which has swayed Nilsson is drawn from the conflicts in the testimonies concerning Pythagorean abstinence from flesh, 'some speaking of a general prohibition of certain parts of the animal or certain animals, e.g. the matrix, the heart, the brain, the sea-urchin, especially of such animals as were not sacrificed. If the general prohibition against killing animals and eating their flesh existed originally among the Pythagoreans, these special prohibitions would be meaningless'; and if the general prohibition was not original, the belief in transmigration could not have been original either (Nilsson, *op. cit.*, p. 206). This leads Nilsson to think that the belief in transmigration came later, under Orphic influence. But surely, the conflict of our testimonies on this point can be explained in other ways. We know that there were different grades of membership in the Pythagorean order; and there are explicit reports in our sources that the rules for the lower grade (the *akousmatikoi*) were (as we would expect) less stringent than for the inner circle not only in other matters such as the sharing of property (see contrast of *koinobioi* with *akousmatikoi* in Iambl. *Vita Pyth.* 29-30; and cf. *ibid.* 80-81) and doctrinal proficiency (*ibid.* 81 and 87 ff.) but also quite specifically for the observance of the ritual and dietary tabus (*ibid.* 108-109, 150). Nilsson objects (*Geschichte der Griechischen Religion*, I, Munich, 1941, p. 666, n. 3) that this resolution of the difficulty assumes that the distinction in grades of membership had been established in Pythagoras's own life-time. But (i) I see no good reason to doubt the testimonies of the biographical sources on this point, and (ii) even if the distinction did arise in the fifth century after his death, it could still account for conflicting dietary prescriptions in our fourth-century sources. There are other factors, too, especially in the case of Aristoxenus (the most vehement opponent of the tradition of total abstinence), whose testimony is self-contradictory (cf. frag. 27 Wehrli, where he does concede that the Pythagorean diet was vegetarian after all, but tries to explain it away by giving medical reasons for it) as well as in contradiction to some of the best authenticated original prohibitions (as e.g. that of beans, which Aristoxenus denies, frag. 25 Wehrli), and can only be explained by his obvious effort to produce a rationalized, prettified portrait of Pythagoras, purged of magical features.

Onomacritus, and Pherecydes, Pythagoras was a religious sage: what is more, he is known to have founded a coherent religious sect.[63] In our best and earliest sources we hear even more of his religious activities than of his philosophy.[64] Herodotus mentions the Pythagoreans only to refer to the peculiar rites they shared with the Orphics.[65] Plato mentions his name only to speak of him as the founder of what was 'still the Pythagorean mode of life';[66] Isocrates, to say that he was distinguished for wisdom in 'sacrifices and religious rites' as much as 'in the rest of philosophy'.[67] That he enjoyed quasi-divine status; that sundry miracles were ascribed to him; that his order observed tabus which savour of primitive magic—all this is vouched for by Aristotle.[68] The only writings ascribed to him by an early (fifth century) authority are the verses he is said to have published under the name of Orpheus.[69] Apart from the doctrine of transmigration and the belief that 'things are numbers', the only idea we can credit to him with any measure of probability is the conception of the world in terms of a duality of principles, the finite and the infinite, the first being the principle of the good, the second of evil.[70] Here is something absolutely without parallel in antecedent or contemporary natural inquiry;[71] and the contrast

[63] A prominent feature of all the biographical traditions.

[64] Herodotus's reference to him as 'not the weakest wise man (*sophistes*) among the Hellenes' (4.95) is, of course, no exception. Burnet wrongly translates *sophistes* here as 'scientific man' (*op. cit.*, p. 85). The context (Pythagoras as a teacher of Salmoxis) makes it clear that Herodotus uses *sophistes* here to mean 'religious sage' as e.g. at 2.49: Rathmann (p. 47) compares also Eur. *Rhesus* 949, which refers to Orpheus and Musaeus as *sophistai*; so also Protagoras in Plato *Prot.* 316d. But I do not mean, of course, to minimize Pythagoras's encyclopaedic interests in philosophy, mathematics, music, etc., which are amply attested by the general tradition and get near-contemporary witness in Heracleitus B 40 and B 109; the latter is now generally accepted as genuine (*vs.* Diels) and is a good testimony to his wide learning, in spite of the fact that the words 'practised inquiry (*historien*) above all men' is a sneer (so Verdenius, 'Notes on the Pre-Socratics', *Mnemosyne*, S. III, Vol. 13 [1947], at pp. 283-4).

[65] 2.79, shorter version of the Florentine manuscripts, and Linforth's commentary (*op. cit.*, 38 ff.).

[66] *Rep.* 600 b. Our best commentary on the sense that Plato's words here would convey to his audience are the numerous references to the way of life of Pythagorean sectaries in middle comedy (collected in Diels-Kranz, *Pythagoreische Schule*, E) where the dietary tabus are most prominent.

[67] *Busiris* 28-29.

[68] Fragments 191 ff. Rose.

[69] Ion of Chios B 2; cf. Iambl. *Vita Pyth*, 146. For the interpretation see Linforth, *op. cit.*, pp. 110 ff.

[70] Aristotle, *E.N.* 1106 b 28, 'for evil is a [form] of the unlimited, and good of the limited, as the Pythagoreans imagined'; also *Met.* 986 a 16 ff., 987 a 13 ff., 1093 b 11 ff. What is 'peculiar' to the Pythagoreans says Aristotle (987 a 13 ff., and cf. W. D. Ross *ad loc.*) is that the infinite and the One (= the finite) are the 'substance' of things and 'this is why they said that number is the substance of all things'—a remarkable presentation of the doctrine that things are numbers as an inference from the ultimate cosmological dualism of finite-infinite. On this general topic see W. A. Heidel, '*Peras* and *Apeiron* in the Pythagorean Philosophy,', *Archiv für Geschichte der Philosophie* 14 (1901), F. M. Cornford 'Mysticism and Science in the Pythagorean Tradition', *Classical Quarterly* 16 (1922) and 17 (1923), and the latest study, J. E. Raven, *Pythagoreans and Eleatics* (Cambridge, 1948) Chapter I which finds (rightly, I think, against Cornford) that on Aristotle's evidence 'there was in earliest Pythagoreanism an eternal dualism', p. 18.

[71] The difference would hold even as over against Alcmeon whose 'opposites' are cited by Aristotle, *Met.* 986 a 27 ff., as a doctrine 'similar' to that of the Pythagoreans: (i) the finite-infinite duality do not appear in Alcmaeon's list, nor do the implied arith-

is all the more striking in that the only Ionian philosophers Pythagoras could have known made the Infinite itself (Anaximander) or the infinite Air (Anaximenes) the ultimate cosmogonic principle and endowed it with the attributes of divinity. Pythagoreanism not only rejects the monistic concept of nature axiomatic in the *physiologoi*, but implicitly condemns their highest principle as evil. We can only infer that, whatever its details, this cosmological innovation was the speculative ground for the dualistic conception of man implied by the belief in transmigration which is the one doctrine we can certainly ascribe to Pythagoras.

IV

No one who has ever plunged into the bottomless pit of research into Pythagoreanism will find it in his heart to blame Jaeger over-much for leaving out this whole chapter from his book.[72] The omission is disconcerting, all the same. For if it is a philosophical *theology* that we are looking for in the pre-Socratics, it is only here that we shall properly find it.[73] For here we do get a system of thought which, on the evidence, must have served to justify the beliefs and practices of a religious cult. And this is precisely what we do not get in any system of natural inquiry from Anaximander to Democritus. There are no moorings in the cult for any of them from which reason is not free to cut loose. They are free to condemn the cult with the savage irony of a Heracleitus, or to explain its foundations away with the relentless persistence of a Democritus.[74] They are also free to ignore it

metical (odd-even) and geometrical (square-oblong) dualities; (ii Alcmaeon's opposites are not discriminated as 'good' and 'evil' respectively (in spite of Aristotle's citation of 'good and evil' at *Met.* 986 a 34), since Alcmaeon's norm of health is equipoise (*isonomia*, B 4), not subordination, as would be required if one term in each pair of opposites were held 'good' and the other 'evil'. Alcmaeon was doubtless acquainted with the Pythagoreans at Croton, and may have been on intimate terms with them; but there is no evidence for regarding him as a Pythagorean: see W. A. Heidel, 'The Pythagoreans and Greek Mathematics', *American Journal of Philology* 61 (1940) at pp. 3-6.

[72]There are scattered references to Pythagoreanism in the book (especially at pp. 83 ff. and 151 ff.), but these are only incidental to the discussion of other doctrines. A brief sketch of his view of the teachings of Pythagoras had been offered earlier in *Paideia*, Vol. I (pp. 161 ff. of the second English edition).

[73]Not in Empedocles's *Purifications*, for (as I shall argue in Section V) this work is not a genuinely *philosophical* theology, but a theology (in the more traditional sense) tacked on to the philosophical system of the work *On Nature*.

[74]See my 'Ethics and Physics in Democritus', *Philosophical Review* 54 (1945) at p. 581, note 24: and 'Religion and Medicine in the Cult of Asclepius', *Review of Religion* 13 (1949) at p. 284 and notes. When Jaeger (p. 181) says that Democritus 'did not deny the gods altogether', but 'recognized eternity and imperishability as properties belonging to the gods' and retained 'prayer as the most fundamental way of expressing one's faith in the reality of the Divine', he misunderstands B 166. There Sextus clearly tells us that (according to Democritus) the *eidola* were not imperishable and that there was 'no other god [*sc.* other than the *eidola*] having an incorruptible nature'; whence it follows that there are no gods in the recognized sense of the word. When Sextus says that Democritus 'εὔχετο that he might chance to meet lucky *eidola*', εὔχετο can not mean 'prayed' (what sense would there be in praying to Democritean *eidola*?) but only 'hoped, wished for' as *e.g.* in Aristotle *E.N.* 1118 a 32 and 1129 b 5. I must also dissent from Jaeger's interpretation (pp. 183-84) of B 30. I cannot see that this projects the style of the Ionian philosophers and their monotheistic doctrine into primitive times. The style of the prayer is at least as old as Homer (cf. *Il.* 3. 177). The reference to 'Zeus' carries no necessary monotheistic implications.

altogether, and this is even more characteristic of them, quite symptomatic of their general temper. Their theme is nature, and their object to explain the how and why of its unfailing order. When they find in this a moral meaning—and they all do before the atomists—they may express the trust and reverence they feel for it by calling it ' god '. But they may not go so far. Thus there is no good conclusive evidence that either Anaximander[75] or Anaxagoras[76] called their cosmogonic principle ' god ' or even ' divine '. If they did not, their reticence would be significant and easy to understand from what we know of their position. Consider the case of Anaximander :

When one comes to his fragments fresh from the Theogonies,[77] one moves into a strange new world of thought and feeling. So many of the familiar landmarks have vanished that one can hardly guess which of the old names if any, its discoverer would have wished to conserve. Not only is it true

[75]Jaeger argues at length (pp. 29 ff., 203 ff.) that Anaximander did call the *Apeiron* 'divine'. But the crucial text καὶ τοῦτ' εἶναι τὸ θεῖον may just as well be (*a*) Aristotle's own interpretation of the view that the all-encompassing *arche* must be divine as (*b*) citation or even paraphrase of Anaximander. (See J. S. Morrison in *Journal of Hellenic Studies* 69 [1949], p. 90). I see no definite evidence whatever in favour of (*b*), while (*a*) is favoured by two considerations : (i) τὸ θεῖον does not occur as a substantive for 'divinity' in any of the pre-Socratics or any other text prior to Aeschylus and Herodotus, while it is one of Aristotle's favourite terms ; (ii) the ancients did not understand this particular text or any other text at their disposal to say that Anaximander himself taught that the *Apeiron* was τὸ θεῖον : even the chapter in Aetius (1.7) which generously supplies even Democritus with a god (= fire !), does not say that Anaximander's *Apeiron* was god, but only that ' Anaximander declared that the infinite *ouranoi* were gods '. Cicero (*de Nat. Deorum* = Anaximander A 17) speaks, like Aetius, of the worlds as *nativos deos*, and objects that they cannot be gods, since god *must* be eternal.

[76]As Jaeger observes (p. 161) there is no such statement in the fragments ; he disregards, I think wisely, such doxographic reports as those of Aet. 1.7.5. and 14. He nevertheless holds ' that this must have been his doctrine '. . . . both (*a*) from the hymn-like form in which the predicates of Nous are expressed, and even (*b*) from the content of these statements . . . [*e.g.*] the epithets " infinite ", " self-ruling ", " unmixed ", and " itself by itself " ' (p. 161). Both (*a*) and (*b*) beg the question which is precisely whether Anaxagoras may not have used just these epithets in just that style, and still held back from calling the *Nous* ' god ' or ' divine '. On similar grounds one might have argued even more strongly that Parmenides taught the Divinity of his Being ; but there Jaeger respects the silence of the fragments and concludes that Parmenides ' definitely fails to identify Being with God ' (p. 107). Though the *ex silentio* argument is always dangerous, I think it unlikely that Plato would not have alluded to the divinity of Anaxagoras's *Nous*, had he known of it, in the crucial passage (*Phaedo*, 97 b ff. : and *cf. Laws* 967 b) which argues that, having said so much (' *nous* is the world-ordering principle '), Anaxagoras should have said more (that ' everything has been disposed for the best ') ; since the latter would have followed even more strongly from a teaching of the *divinity* of the *Nous*, some reference to such a teaching, had Plato known of any in Anaxagoras, would almost certainly have crept into Plato's argument.

[77]The standard ones, Homer's and Hesiod's, mainly the latter, since it was by all odds the most influential. As for the sixth-century theogonies, I have suggested above (note 34) that there is no *evidence* of Anaximander's acquaintance with them. In any case, they are infinitely closer to Hesiod than to Anaximander, since they continue to assume the generation of the gods. The important exception is Pherecydes, whose cosmogonic gods are explicitly said to be eternal. I have expressed above, note 51, reserved agreement with Jaeger's view that in this respect Pherecydes was probably influenced by Anaximander. This is chronologically permissible on the general view which makes Pherecydes a somewhat younger contemporary of Anaximander. To push Pherecydes towards the end of the sixth century (so Jaeger, p. 67) in order to facilitate the possibility of philosophical influence on him seems to me unwarranted. Incidentally, there is no evidence that Pherecydes ' assimilated the philosophical criticisms of anthropomorphism ' (Jaeger, p. 69) ; the divine marriages and battles which are so prominent in his theogony are definite evidence to the contrary.

that properties and functions traditionally reserved to the gods are now transferred to an utterly different sort of entity; what is more, the properties and functions themselves have changed. In creation the pattern of sexual generation has been replaced by a mechanical process, which simply sorts out the physical components of an original mixture, and does so not once, to creat the single world of traditional thought, but endlessly, to produce innumerable worlds throughout an infinity of time. What is there here that Anaximander would wish to denote by the same noun as that used of Hesiod's Zeus? We simply have no *a priori* way of answering the question; we can only go to the evidence, such as it is. This does not tell us that Anaximander called the *Apeiron* 'god', but that he so called 'the infinite worlds'.[78] This, then, Anaximander may have felt, was the best he could do for the gods in his system, presumably because the gods of the Theogonies were themselves generated.[79] Reserving 'agelessness' to the Apeiron[80], he was taking away from the gods their most characteristic prerogative, but doing so by the compulsion of his logic. In his system whatever has a beginning must have an ending. If the gods have a birth, they cannot be deathless; only the beginningless *Apeiron* can be truly ageless and immortal.

No less different from the popular gods is the *Apeiron* in its role of world 'governor'. Traditionally the justice of Zeus is 'ordained unto men' and, quite explicitly in Hesiod, no further.[81] Only occasionally are the 'beasts' too drawn into the circle of his Justice.[82] The forces of nature, uncertainly personified as earth-born deities, are subdued by Zeus in the battle with the Titans and brought more or less under his power. But there is no notion of natural *laws* issued and maintained by Zeus. So far from maintaining natural regularities, Zeus himself and the other gods over-ride them right and left. To do so is their prerogative and indeed provides the main medium of omens, oracles, marvels, punitive thunderbolts, storms, plagues, etc., through which they make known their will to men and enforce it upon them. What could be further from the Justice of the *Apeiron* whose

[78]A 17; see above, note 75. There is a certain analogy here in Parmenides, who calls *Dike-Ananke* a divinity in the realm of Becoming (A 37; B 12), but not in the realm of Being.

[79]As implied, of course, by the literal meaning of the word *theo-gonia*. As Jaeger observes (p. 32) the term 'ever being' (αἰὲν ἐόντες), frequently applied to the gods in Homer and Hesiod, 'shows merely that the gods are thought of as immortal, living for ever'. That this usage is continued in the sixth-century theogonies is confirmed by the Aristophanean imitation in the *Birds*; v. 688 speaks of the gods as 'the immortal, the ever being', while at v. 691 the theme of the theogony is announced as 'the nature of the birds [= "gods" here], the generation of the gods . . .' Pherecydes's is the first known deviation from the tradition.

[80]B 2, B 3.

[81]Hesiod *Op.* 276-78. Solmsen, *op. cit.*, p. 104, n. 6 observes: 'Hesiod had restricted these "ideas" [such as *dike*] to the dispensation of Zeus and to human society, setting them far apart from the physical entities like Earth, Heaven, Land, and Sea, which took shape early and have no part in the moral world order. In this important respect, the Presocratics may be said to have destroyed the Hesiodic pattern'. See also his remarks at p. 65 and pp. 159-160.

[82]Archilochus, frag. 84, Hiller-Cr.

laws, fixed in the physical structure of the world, are cosmic in their scope and natural in their execution? When Jaeger tells us that Anaximander's cosmology offers 'the first philosophical theodicy' (p. 36), it is essential to remember that the 'justice' and 'reparation' of fragment 1 operate simply through the self-regulative periodicities of a mechanical equilibrium.[83] This is certainly more, as Jaeger observes, that a 'mere explanation of nature' in *our* sense of these words, or the words 'justice' and 'reparation' would be meaningless. But it is both more and less than a 'theodicy' in any sense in which the Justice of the gods had been conceived or, for that matter, ever was conceived, by the clientele of the Greek cult. No theodicy could satisfy the cult which did not include a doctrine of individual providence, and no such doctrine could be squeezed out of Anaximander, or even Xenophanes, Heracleitus, and others who did call nature 'god'.[84] Philosophy could fill the order only by grafting Zeus's all-seeing eye on a cosmic power, watchful of every single life to requite its vice and virtue in minute proportion in this life and the next. It was probably the Pythagoreans[85] and after them certainly Plato[86] and the Stoics who performed this remarkable operation, and thus produced a properly theological theodicy.

[83] I offer justification of this view at pp. 168 ff. of the paper cited above, note 17. I wonder whether Jaeger is true to his own methodological principle (cited above, p. 101) in speaking of 'divine justice' in Anaximander without explicit consideration of the (purely physical) mechanism through which 'justice' and 'reparation' are maintained?

[84] Jaeger takes it for granted that the Justice and Reparation of Anaximander B 1 occur not only in the physical cosmos but also in the world of politics and morals (p. 35: and earlier in *Paideia*, I, 2nd. English ed., p. 160). There is no evidence for this assumption, nor is it possible to understand how it would fit Anaximander's physics. How *would* the balanced equalities of hot-cold, dry-moist, etc., enforce reparation of human wrong-doing? Heracleitus goes far beyond Anaximander in annexing 'human' to 'divine' law and justice. But even here the self-regulative execution of the 'common law' inherent in the soul and the state falls far short of a doctrine of individual providence. So does Anaxagoras's *Nous* as, I think, is clear from the disappointment of the youthful Socrates with his cosmology in the *Phaedo*. Jaeger takes Anaxagoras B 12 to mean that the ordering of creation by Nous proceeds in accordance with 'preconceived world-plan' (p. 163); but I do not know how he gets this out of ἐκόσμησε ('ordered, arranged') or πάντα ἔγνω νοῦς ('*Nous* knew all things'). Anyhow, I think Jaeger would agree that, so far as we can judge from the fragments, Anaxagoras's *Nous* was not meant to fulfil the function of a personal providence. Neither would the Cosmic Intelligence of Diogenes's Air. Jaeger follows closely W. Theiler (*Zur Geschichte der teleologischen Naturbetrachtung bis auf Aristoteles*, Zurich, 1924) in assuming that Diogenes was the source for the providential arrangements of nature recited by Xenophon (especially at *Mem.* I.4 and 4.3.), but adds that we cannot read into this source the meaning they now have in Xenophon himself, 'namely, that these are all ways in which the gods provide for man's needs' (p. 168). Theiler's learned and ingenious thesis has never received to my knowledge the criticism it deserves. Earlier S. O. Dickerman (*De Argumentis Quibusdam apud Xenophontem* etc., Halle, 1909) had rejected the hypothesis that Diogenes was Xenophon's source (p. 48); to Dickerman's argument I would add that if Diogenes were as much of a teleologist as Theiler takes him to be, he could hardly have been so completely ignored in Socrates's vain search for a teleological cosmology in the *Phaedo*.

[85] Not explicit in any reliable tradition of early Pythagorean teaching, but implicit in the whole doctrine of transmigration with its teaching of divine judgment and retribution. Cf. Philolaus's doctrine (B 15) that the gods keep a 'guard' over men.

[86] Notably at *Laws* 903 b ff. Cf. F. Solmsen, *Plato's Theology* (Ithaca, 1942) Chapter 9.

I hope my argument[87] has made it clear that it concerns more than linguistic propriety, and would not be met had Jaeger dropped the word 'theology' and spoken less provocatively of 'the religious ideas' of the pre-Socratics. The real issue here is not verbal usage, but historical matter of fact, i.e. the actual relation of the beliefs of the pre-Socratics to those of contemporary religion. I do not mean to suggest that Jaeger is unaware of the gulf between the two. He often alludes to it in one way or another, and remarks in one place that the gap which exists in this period 'is never again entirely closed' (p. 174). My point is simply that, taking the gap for granted, he never stops to measure it. The result of this omission is actually, though doubtless unintentionally, an under-estimation of the vast distance between the two *types* of religious belief, and consequently a failure to exhibit the full dimensions of the unique achievement of the pre-Socratics as *religious* thinkers. This, in a word, lies in the fact that they, and they alone, not only among the Greeks, but among all the people of the Mediterranean world, Semitic or Indo-European, dared transpose the name and function of divinity into a realm conceived as a rigorously natural order and, therefore, completely purged of miracle and magic. To *moralize* divinity was not their main, and certainly not their unique contribution.[88] Pindar and Aeschylus here labour in the same cause as Xenophanes and Heracleitus: and the Hebrew prophets were doing the same a good two centuries before Xenophanes, and with a passionate intensity unequalled by any Greek philosopher or poet. But the world of Pindar and Aeschylus is thick with magic of almost every description. The prophets of Israel and Judah fought a valiant rear-guard action against wizards, necromancers, and soothsayers. But they lacked the conceptual equipment to see that magic was not only a religious impropriety but a sheer impossibility; and they never cleared their minds of the notion of miracle which is the intellectual foundation of magic. Miracle remained a permanent feature of Hebraic as of Greek[89] and, later, Christian piety. To present the deity as wholly

[87] I have made no mention of the Eleatics who occupy a unique position among the pre-Socratics, partly because I have already sketched my interpretation of Parmendides' peculiar blend of mysticism and logic in 'Parmenides' Theory of Knowledge', *Trans. Amer. Philol. Assoc.* 77 [1946] at pp. 74-77, partly too because I find Jaeger's account of Parmenides the most satisfying chapter in the whole book. 'What Parmenides has done', he writes, 'is to take over the religious form of expression and transpose it to the sphere of philosophy, so that in truth a whole new intellectual world takes shape' (p. 97)—a fine statement, I believe, of the treatment of religious ideas not only by Parmenides, but by all the *physiologoi* from Anaximander to Democritus.

[88] The same may be said of their contribution to religious universalism. Jaeger holds (p. 48) that this began in the western world 'neither with the Christian nor with the prophets of Israel, but with the Greek Philosophers'. But the idea of one God who governs nature and all men is already in Amos (1.3-2.3; 5.8; 9.6-7).

[89] Plato's position here is most instructive. Transmigration itself is a miracle, since the immortal part of the soul is reserved to the reason and is disjoined from the passionate and appetitive parts which are explicitly said to be *mortal* (*Tim.* 69 c ff.); how then could the identity of the *immortal* soul be preserved throughout its incarnations in animals, reptiles, etc., which are conspicuously lacking in reason? It is no use trying to explain away transmigration as a myth, since it is (i) the premise for the epistemological doctrine of Recollection in the *Meno*; (ii) the premise for the metaphysical doctrine of the immortality of the soul in the *Phaedo*; (iii) repeatedly recognized in the cosmology of the *Timaeus*. Plato's attitude to the irrationalities of the public

immanent in the order of nature and therefore absolutely law-abiding was the peculiar and distinctive religious contribution of the pre-Socratics, and it should be put in the forefront of any account of their religious thought. They took a word which in common speech was the hallmark of the irrational, unnatural, and unaccountable[90] and made it the name of a power which manifests itself in the operation, not the disturbance, of intelligible law. The transposition opened new religious possibilities. Had these been realized, Greek religion would have been freed of those evils which Lucretius in retrospect so justly imputes to it.

V

Had Jaeger done justice to this phase of the religious teachings of the pre-Socratics he would have altered the perspective of much of what he has to say. And the main beneficiary would have been the chapter on 'The Origin of the Doctrine of the Soul's Divinity', which makes Anaximenes, of all people, the bridge between earlier Greek beliefs about the soul and the Orphic doctrine. The argument is roughly as follows: We know that the Orphics thought of the soul as (*a*) divine and (*b*) independent of the body. Jaeger holds that they also thought it (*c*) incorporeal (p. 84) which, he thinks, would follow from (*b*), and (*d*) air-like, on the strength of Aristotle's reference to 'the account in the so-called Orphic poems, [which] says that the soul comes in from the whole when breathing takes place, being borne in upon the winds'.[91] He thinks that (*d*) 'already presupposes the philosophical theory [of Anaximenes] that air is the principle of life' (p. 80); and he also finds a connection with Anaximenes at (*c*), assuming that *his* breath-soul was 'as incorporeal as possible' (p. 84), and also at (*a*), since Anaximenes taught that Air was divine.[92] This raises more questions than it answers: Briefly,

cult which his state religion would conserve (*Rep.* 427 bc, *Laws* 738 cd) is a more complicated question. It may be, as E. R. Dodds argues ('Plato and the Irrational', *Journal of Hellenic Studies* 65 [1945], pp. 22-23) that there is 'little reason, and certainly no necessity, to credit Plato with a serious belief in the personal gods of Greek mythology and Greek cult'. Yet Plato speaks as though he did accept the reality of good and evil daemons with power to intervene unaccountably in human life (*Laws*, 877 a *Ep.* 7. 336 b), and at *Tim.* 71 divination appears as a vehicle of 'some apprehension of reality and truth' which, though quite inferior to reason, may still be due to 'divine possession'.

[90]So *e.g.* in Herodotus in spite of his very considerable rationalism. Note his use of 'the divine' to denote events such as these: the Cnidian workmen suffer an unaccountably large proportion of injuries (1.174.4); the cats in Egypt rush headlong into the fire (2.66); Ariston is convinced that not he, but an apparition, has had intercourse with his wife (6.69); the wrath of Talthybius descends on the perfectly innocent sons of Spertheias and Bulis (7.134). When the event is so strange that it is no use even looking for a natural explanation, then it *must* be 'divine'. *Per contra*, if a thing can be explained by natural means, it cannot be divine (7.16.2). So the author of *On the Sacred Disease* (1): 'men think it [the "sacred disease"] divine (=$\theta\epsilon\hat{\iota}o\nu$ $\pi\rho\hat{\eta}\gamma\mu a$ same expression as in Hdt.2.66 and 6.69) because of their inexperience, and its marvellous character, and the fact that it does not resemble anything else'.

[91]*De An.* 410 b 22 ff. (= Orpheus B 11), in the Oxford translation.

[92]In attributing the doctrine of the divinity of the cosmogonic power to Anaximenes, Jaeger seems to argue (p. 36) mainly from the fact that it was already taught by Anaximander and would thus be conserved by Anaximenes. If, as I have argued, there is no definite evidence for ascribing the divinity of the *arche* to Anaximander, independent

(i) Chronology : Where is the evidence that the Orphic theory of the soul comes after Anaximenes ? But

(ii) why need Jaeger make such an assumption ? He argues convincingly[93] that the breath-soul is an old, pre-Homeric notion, as evidenced in such expressions as ' breathing out one's soul '. Why need the Orphics get from Anaximenes an idea long embedded in their mother tongue ?

(iii) If the Orphics thought of the soul as air,[94] would they think of it as incorporeal ? Is air incorporeal ?

(iv) Anaximenes certainly did not think the soul ' as incorporeal as possible ', but the reverse. To say that everything, from fire to earth, is air, is to say that soul, as air, is as corporeal as anything else.[95]

But none of this really gets to the heart of the question. The stark, irreconcilable contrast between Ionian naturalism and Orphic dualism would be untouched by any theory of the material composition of the soul the Orphics may have entertained, even if this were borrowed from philosophy. Anaximenes himself may have taught the divinity of the soul, though there is no such statement in either fragments or testimonies. This way of speaking and thinking is quite congenial to the temper of Ionian philosophy.

grounds for crediting it to Anaximenes must be offered. These I can only find in later testimonies (Cicero, Aetius in A 10), which, however, may be suspected of confusing the doctrine of Anaximenes with that of Diogenes of Apollonia who *did* teach the divinity of the cosmogonic Air. It may be worth noting that our most comprehensive and reliable account of his system, that of Hippolytus (*fidissimum excerptorem*, Diels found him, *Doxographi Graeci*, p. 132) makes no mention of the divinity of Air, but only says that ' gods and things divine ' were ' generated ' from Air (A 7) ; and that St. Augustine (*Civ. Dei*. 8.2) seems to agree with Hippolytus, saying that ' the gods arose from the air '.

[93] In agreement with the view of E. Bickel, *Homerische Seelenglaube* (*Schriften der Koenigsberger Gelehrten Gesellschaft* 1 [1925], Heft 1).

[94] I see no good reason to doubt Jaeger's view that they did, though no such conclusion is warranted by one of the sources to which he looks for support (pp. 80 and 84), *sc.* Aristotle's report (*de An.* 213 b 22 ff.) of the Pythagorean view that the *ouranos* ' breathed ' in ' air ' and ' void ' from the surrounding infinity : Aristotle's report does not *say* that this inhalation is soul, nor could it, since, *qua* infinite, the void would come for the Pythagoreans under the heading of the ' evil ' principle which would certainly not be that of the (divine) soul. Aristotle's single reference to the Orphic theogony (n. 91) seems slim ground on which to base the reconstruction of their theory of the soul, but perhaps good enough where positive evidence is so hard to come by. Here, however, we should note that Aristotle's report does not strictly say that in this view soul was air : fire, or the fiery aether, could also be ' borne about ' by winds and ' inhaled ' (so in the philosophers, e.g. Heracl. A 16, Democr. A 106). Jaeger doubtless means to use ' air ' broadly enough to include fiery aether (clearly so in another context, p. 208, n. 63, where he refers to Heracleitus's theory of soul as ' air '), and with good reason since the distinction between air and aether is hazy enough in the philosophers (for Heracl. cf. B 31, B 36, B 76 ; for Emped. note that ' air ' in B 17.18 = aether in B 71, etc., while at B 38 aether = fire !) and would be even hazier in popular thought. In Anaximenes soul is *warm* air (B 1 *sub fin.*). When the mystery cults contrast the *aethereal* soul with the earth-born body (see above, note 60) it is safe to assume that the contrast is between the warm, bright aether of the soul and the cold, dark earth of the body no less than between the volatile consistency of the ' breath '-soul and the heavy, compact ' earth '-body.

[95] Cf. Diogenes of Apollonia B 7 : ' [air is] an eternal immortal body '. Jaeger says that Anaximenes ' did not identify it [*sc.* soul = air] with any corporeal substance of the world of experience ' (p. 84). I believe that this is precisely what he did (see B 1, which offers a primitive sort of experimental evidence for the ' warm air ' theory of soul), his choice of Air in place of Anaximander's *Apeiron* being dictated by the desire to find a cosmogonic substance *in* ' the world of experience ', taking pains to explain the particular physical circumstance under which the air about us is ' imperceptible ' (A 7).

We find it in Heracleitus,[96] Diogenes of Apollonia[97], and even Democritus![98] There is no reason why Anaximenes too would not have welcomed the idea on the same terms. But what would it have meant to him on *these* terms? In Ionian philosophy the divine is nature itself, its basic stuff and ruling principle. To say that the soul is divine is then to naturalize it; it is to say that it is subject to the same sequence of law and effect which are manifest throughout the whole of nature. And this is the very opposite of the Orphic doctrine of the divinity of the soul, whose content is rather obscure, but whose intent is perfectly clear: that the soul is not a natural, but a super-natural, entity. The word 'supernatural' would not, of course, figure in their vocabulary. But it would describe their meaning better than any word at our disposal. When they said that the soul was divine they meant that it is an exile from another world: its stuff is god-stuff; its powers are not bound by the limits of the observable uniformities of nature but include the oracular and other magical powers of divine being;[99] its destiny is determined not by the natural properties of air, fire, etc., but by the mysterious will of superior gods who impose on this lesser *daimon* the penance of transmigration, and prescribe, through their priests and prophets, the necessary purificatory rites and tabus. Could one imagaine a sharper antithesis to any doctrine of the divinity of the soul that Anaximenes could possibly have taught?

The only answer I can think of would be by way of Empedocles. Here we do have a philosopher, and of the first order, who is also a devotee of Orphic purity. If it could be shown that what his natural philosophy tells us about the soul will square with his doctrine of transmigration, we would have strong, indeed conclusive, grounds for saying that the two doctrines are not as incompatible as we must think them on the strength of all our other evidence. And this is precisely what no one has yet succeeded in showing. Jaeger does not attempt and, if I read him aright, does not intend so much. He recognized the 'basic incompatibility'[100] between the 'mystico-

[96] If we may read so much into the equation of θνητοὶ ἀθάνατοι at B 62 (cf. B 77).

[97] In the valuable testimony of Theophrastus (*de sens.* 42) to which Jaeger draws attention, p. 171.

[98] See 'Ethics and Physics in Democritus', (cited above, n. 74), pp. 580-82.

[99] For the oracular powers of the soul which 'has come from the gods' see Pindar's famous frag. 131 Schroeder. For the sundry magical powers (including oracles) claimed by the Orphic adept our best texts are Empedocles B 111, B 112, B 129; with Empedocles's claims (in his capacity of Orphic god-man) to control the winds and make rain, *cf.* those of the magicians and purifiers in *On the Sacred Disease* (4): 'they profess to know how to bring down the moon, eclipse the sun, make storm and sunshine, rain and drought, the sea impassable and the earth barren'. For other instances of Orphic magic see Eur. *Cycl.* 647-49; and Plato *Rep.* 364 bc, which includes black magic (*katadesmoi* here = *katadeseis* in *Laws* 933 a, the *tabellae defixionis*, on which see M. P. Nilsson, *Greek Popular Religion*, New York, 1940, pp. 114-15). Such things were practised no doubt only by the lowest type of Orphic priests who, however, cannot be dismissed as merely 'quack' Orphics (see above, note 45); the fact that priests who invoke the authority of books by Orpheus and Musaeus for their rites practise this kind of magic is a significant commentary on the Orphic concept of the soul.

[100] P. 133. For a sample of the opposite view at its boldest extreme see Cornford, *op. cit.*, p. 241: 'Empedocles . . . exemplifies, in a most remarkable way, the . . . view that men's cosmological views were almost entirely dictated by, and deduced

theological' thought-forms of the *Purifications* and the rationalistic logic of the poem *On Nature*. But he still argues for some sort of imaginative coherence between the two: 'In the mythical space of a world pervaded by divine figures, the two attitudes so irreconcilable from our abstract point of view will be seen to fit together as two distinct, but in the last analysis basically homogeneous, spheres for the interplay of divine forces'.[101] I can only say that, after reading this chapter with care and accepting gratefully much of its detail, I do not find that the promised reconciliation comes off. Not only from our 'abstract' point of view, but from Empedocles's own as well, the two pictures of reality remain not only heterogeneous but contradictory at crucial points; they admit of no rational or, for that matter, even imaginative harmony. Take, for instance, the major fragment of the *Purifications* where the fatality of transmigration is somehow blamed on Strife.[102] 'In this way', Jaeger remarks, 'the philosopher tries to interpret the fundamental religious facts of the Orphic theory in accordance with the supreme principle of his natural philosophy' (p. 150). But the natural philosophy does not single out Strife as *the* power which sets in motion the wheel of becoming. Love is at least as necessary.[103] What is more, *On Nature* speaks of Love as the creator of 'mortal forms', while on Jaeger's interpretation, this fragment of the *Purifications* assigns just this function to Strife.[104] Again, if the Golden Age of the *Purifications*, as Jaeger interprets it (pp. 150 ff.), stands for a world where Love holds undisputed sway, the imaginative construct would clash badly with that of the physical poem. For without Strife, the cosmologist holds, there could be no world at all, good or bad, only an indiscriminate mixture, no individual gods or daemons

from, their religious convictions'. A similar view is expressed in more temperate language in Cornford's chapter on 'Mystery Religions and Pre-Socratic Philosophy' in Vol. IV of the *Cambridge Ancient History*, pp. 566-569.

[101] P. 134. I cannot be sure that I understand exactly what Jaeger means here, but suspect that he reads more into the deification of the four roots in *On Nature* than the evidence allows. All Empedocles means by calling them 'gods' is to call attention to their (*a*) privileged immortality against the mortality of all other physical substances (as I have argued in 'The Physical Theory of Anaxagoras', *Philos. Rev.* 59 [1950], pp. 77-78) and (*b*) joint and equal share along with Love and Strife in the maintenance of the cosmic order (see the paper cited above at note 16, pp. 159-160). This sort of divinity builds no bridges to the *Purifications*.

[102] B 115.13-14, '. . . an exile from the gods and a wanderer, for that I put my trust in insensate Strife' (translation after Burnet) which Jaeger takes for 'a mythical way of expressing its (*sc.* the wandering soul's) entanglement in the cosmic machinery under the rule of Hate' (p. 150). He had offered a different interpretation in *Paideia* (Vol. I, 2nd ed. of Eng. tr., p. 169, with reference to B 115.9 ff.): 'In the cosmos revealed by the physicists, the soul (*sc.* of Orphic piety) can find no home'. But if this is (as I believe) the right interpretation, I do not see how Empedocles may be said to present 'a synthesis which shows very instructively how these two different ways of viewing the world (*sc.* Orphism and *physiologia*) could supplement and complete each other' (*loc. cit.*).

[103] As Jaeger justly observes (p. 140): 'Hate is as necessary as Love to maintain its (*sc.* the world's) dynamic structure, even though Empedocles loves Love and hates Hate'. Hence Hate's 'equality' (B 17.27) with Love, a powerful testimony to the subordination of religious feeling to the requirements of the physical system in this poem.

[104] Cf. *φυομένους παντοῖα διὰ χρόνου εἴδεα θνητῶν*, B 115.7 with *θνητ' ἐφύοντο* and *χεῖτ' ἔθνεα μυρία θνητῶν, παντοίαις ἰδέῃσιν ἀρηρότα* of B 35.14-17, under the influence of *φιλότητος ὁρμή*.

or anything else.[105] But the *Purifications* speaks of men, beasts, and birds, as well as gods, when 'the flames of good fellowship glowed' in the Golden Age (B 128). Just how then are the *Purifications* 'in the last analysis basically homogeneous' here with the cosmology?[106]

As for the concept of the soul, Empedocles's natural inquiry presents us with a cardinal doctrine, explicit in the surviving fragments, and enormously influential on Greek medical thought. It is the well-known theory that perception and thought are the functions of the blood, which is conceived as a mixture of the four elements in equal ratio.[107] But blood can hardly exist without 'flesh'; and in the *Purifications* flesh is termed in Orphic fashion an 'alien garment'[108] which the wandering daemon puts on when, and presumably only when, he serves his sentence in the wheel of transmigration. How then does he get along without it in his first and last estate of discarnate blessedness? How does he think the thoughts of love when he has nothing to think with?[109] It is better to drop the question and therewith the assumption that Empedoclean physics and mysticism are 'basically homogeneous'. Jaeger spoke of Empedocles in *Paideia*[110] as a 'philosophical centaur, . . . a prodigious union of Ionian elemental physics and Orphic theology'. 'Prodigious' is the right word for the union of physics and theology, as it is for the junction of immortal god and mortal flesh. The one is as much of a miracle as the other, and Empedocles doubtless devoutly believed it to be such. He left us no explanation of either, and it would be futile to try to supply it by rationalizing the theology of the mystic or mystifying the logic of the cosmologist.

To set the contribution of pre-Socratic philosophy to the concept of the soul in its just historical perspective we must see how here, as in its concept of God, it is its peculiar genius to transpose a religious idea into

[105]Not only men, animals, and plants, but also the 'long-lived gods' come into being only when the world-process is set in motion ἐκ τούτων, *sc.* Love *and* Strife (B 20.9 ff.).

[106]Two more of the many points which cannot be dealt with here: (1) 'It has already been correctly observed that the theory of the four elements, as it is generally called, is presupposed in the *Katharmoi* as well' (p. 143). This on the strength of B 115.9 ff., which, however, on Jaeger's earlier interpretation (above, note 102), voices the hostility of the natural universe to the Orphic soul. Is there any suggestion, here or elsewhere, that the four elements would (along with Love and Strife) pervade the whole of reality in the *Purifications*, as they certainly do in *On Nature*? (2) It is not quite clear whether Jaeger means to identify (as he seems to do, pp. 140 ff.) the *Sphairos* of *On Nature* with the 'holy and unutterable mind' of B 134. See K. Reinhardt's arguments against the identification by W. Kranz, *Empedocles* (Zurich, 1949), p. 48, in his review of this book in *Classical Philology* 45 (1950), pp. 176-177.

[107]B 98; B 105.

[108]B 126. To Jaeger's comment, 'in this image we see corporeality regarded as a mere transient, non-essential wrapping—a conception just as strange to the Greek of Homer's time as it is to the Ionian philosopher' (p. 147), I would merely add: and just as strange to Empedocles himself *qua* philosopher and medical man.

[109]I cannot imagine how this and many other difficulties could be met by Cornford's view (*op. cit.*, p. 239; now revived by H. S. Long, 'The Unity of Empedocles's Thought', *American Journal of Philology*, 70 [1949] at pp. 156-57) that the transmigrating soul is a compound of Love and Strife. In any case, such a view remains purely conjectural; there is no support for it in fragments and/or testimonia, which always treat mental processes as functions of the ratio not of Love-Strife but of earth-water-air-fire.

[110]Vol. I, 2nd English ed., p. 295.

the medium of natural inquiry, transforming, but not destroying, its associated religious values. It is the function of high religion to foster man's reverence for himself no less than his reverence for God. In this respect the record of Greek religion can hardly be called a success. The fault lay at least in part with its traditional concept of the soul as the 'image' or 'shadow' of the real man, which was somehow the principle of life but neither of feeling nor judgment.[111] This psyche's ghostly survival after death was a wretched affair; Homer regards with mixed feelings of gloom and contempt the flitting, squeaking, batlike[112] creatures in the 'joyless' regions[113] of nether darkness[114].

This flimsy support for the sense of reverence for life could be strengthened in one of two opposite ways. The super-natural psyche could be retained and reformed, turned into an infinitely more robust affair, human and superhuman, an incarnate god or daemon, possessing in life and conserving after death all the powers of thought, will, and passion of the full-blooded man, with an extra load of divine powers thrown in for good measure.[115] This was the way of the mystery cults. The Orphic theogonies, Pythagoras, the Empedocles of the *Purifications*, and finally and most triumphantly Plato, adopted and justified this faith. Plato's influence made it a dominant doctrine of Hellenistic thought; thence it passed with appropriate modifications into Christian theology, as Jaeger observes (p. 73). Whatever our estimate of the wisdom of this conception, we have no right to call it 'the' Greek view of the soul. No less Greek was the radical alternative chosen by the pre-Socratics. They too merged the psyche with the feeling *thymos* and the thinking *nous*. But they did so without regard to the cult and with no concessions to magic. They assumed from the start[116] that they could apply to the soul the same categories of under-

[111] I follow here Jaeger's view (p. 74 and ff. with notes) that *psyche* in Homer refers not only to the ghostly residue which survives death but also to the principle of life in the living person. The latter had been ignored in Rohde's classic on this theme. Jaeger seems to make a judicious synthesis of the best features of Rohde's work with those of his critics.

[112] *Od.* 24.1 ff.

[113] *Od.* 11.94; an idea repeatedly echoed in tragedy, Aesch. *Eum.* 301, 423. Eur. *Or.* 1082-84.

[114] M. P. Nilsson, 'The Immortality of the Soul', *Eranos* 39 (1941), pp. 1-16, at p. 3: 'The Greek Underworld was a gloomy and terrible place, and its terror consisted just in its emptiness, its nothingness. . . . The afterlife is at most a vacuum, the soul a worthless, useless shadow. It is evaluated accordingly'.

[115] See above, n. 99.

[116] Anaximander (A 11, A 30), in assuming that man arose from purely natural substances (earth and water) by a purely natural process (heating by the sun); Anaximenes (B 1, B 2), in assuming that the properties of soul are simply those of air. This initiates a tradition in which a dualistic conception of soul-body is unthinkable; soul *is* body, either a particular physical substance *in* the body (air in Anaximenes and Diogenes, fire in Heracleitus and the atomists) or else the mixture (*krasis*) of the physical components of the body as a whole (Parmenides) or of the blood (Empedocles). The detachable ghost-soul of Homer or God-soul of the mystery cults is precluded. Immortality is implied or asserted (Heracleitus, Alcmaeon) in quite another sense, i.e. the physical survival of the substance(s) which make it up, but which does not imply the preservation of personal identity so essential for the mystery cults. Anaxagoras's doctrine of the 'unmixed' *nous* is the first break in the tradition, though it is not made the basis of any doctrine of personal immortality.

standing which formed the framework of their natural inquiry. They thought of it as a part of nature, with a natural origin and a natural ending, but as no less divine for being just that, since it shared the powers of wisdom and justice writ large throughout the universe and could therefore realize within the human microcosm some measure of the order which ruled the infinite worlds. This was its destiny, natural and divine, to be that unique thing, ' a self-increasing logos '.[117] Except for Heracleitus, the pre-Socratics were too pre-occupied with cosmological and physiological problems to develop the potentialities of this idea. But we can see its vitality in Democritus, where the sense of reverence for man survives the loss of faith in God.[118] He can no longer believe in the divinity of nature, but he still believes in the divinity of the soul.[119]

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[117]Heracleitus B 115.

[118]See above, note 98.

[119]For a thorough criticism of an earlier draft I am indebted to my colleague, Friedrich Solmsen. The opinions in this paper are my own ; but many suggestions which have improved it have come from him.

THE PHILOSOPHY OF ORTEGA Y GASSET

> Ἐὰν μὴ ἔλπηται ἀνέλπιστον οὐκ ἐξευρήσει ἀνεξερεύνητον ἐὸν καὶ ἄπορον.
>
> HERACLITUS, fr. 18.

It is curious that while this country has a not unmerited reputation for moral philosophy, it has produced no serious philosophical study of sport, although not only is sport a department of life in which we pride ourselves on having been unrivalled, but also it was, and has not wholly ceased to be, a keen reproach for a man or his conduct to be styled 'unsporting'. Yet our professional moralists have not accorded the theme the recognition that for a century it has received in popular literature, and it has been a Spanish professor of philosophy, Don José Ortega y Gasset, born in Madrid in 1883, who has appreciated and elucidated its significance.

The importance which Ortega attaches to sport springs from its being the plainest example, which can therefore stand as a symbol, of disinterested action, i.e. action carried out not for the sake of anything to result from it but for the sheer joy of doing it. As against the nineteenth century utilitarian view which regarded all manifestations of life, the forms and movements of animals and the spirit and actions of men, as a response to inescapable demands imposed by the environment, Ortega was convinced by biological and historical studies that the original and primary activity of life was a free expansion of a pre-existent energy. According to the conclusions of more recent biology, it is not the necessity or advantage of sight for the struggle for life in face of the environment which produces some species provided with eyes; such a species actually appears suddenly and proceeds to modify its environment by creating its visible aspect. The eye is not produced because it is needed, but because it makes its appearance it can be employed as a useful instrument. What is useful is merely secondary and derivative, being selected from the repertory of disinterested and superfluous actions, though of course it may give rise to new creations of the originative capacity. Whereas in physics there are causes, in biology there are stimuli, the difference being that a cause produces no more than an effect proportionate to it. When one billiard ball hits another, the impelling force which it transmits is in principle equal to the force which it possessed itself. On the other hand, when a thoroughbred receives the slightest prick of the spur, it gives a magnificent spring forward which is generously disproportionate to the impulsion of the spur. The spur is not a cause but a stimulus (*incitación*), and the thoroughbred's responding to an external impulsion is much more a case of its letting itself go.

The main instance of action undertaken not for its own sake but to

satisfy some pressing need imposed from without is work, and the clearest instance of action undertaken for its own sake is sport, which differs from a pure game because of the element of risk, if only the risk of over-fatigue. Scientific and artistic creation, political and moral heroism and religious saintliness are all the sublime results of sport (*Obras*[1] pp. 470; 629-33; 874). In this way, by exhibiting action which conduces to our interests as a selection from action in which we are interested, Ortega clears the obstacles which bring down the Utilitarians, who are embarrassed by the occurrence of disinterested action, and also Kant and the Deontologists, who simply sever duty from interest as though there were no difference between being disinterested and being uninterested, or as though in cases of a clash between duty and interest it were wholly inappropriate to speak of a choice between the two.

Ortega illuminates even the origin of the State by deriving it not from some admittedly unhistorical recognition by primitive men of the advantage of joining together, but from the association of young men who band together for sport. It is the club of the young men which produces the things actually found both among primitive peoples to-day and in the early history of Greece and Rome, viz. exogamy, war, authoritarian organization, discipline, law, cultural association, the festival of masked dances or carnival, and the secret society (pp. 634-43). Who brings these societies into being? Primitive legends of the origins of peoples and tribes attribute their foundation to certain heroic figures endowed with prodigious capacities. This is not the consequence of posterior idealization of their characters by later generations, for unless these men had really been ideals or patterns, capable of arousing enthusiasm, they would never have succeeded in bringing the society into being.

Any society, from the humblest to a great nation, is an organized human mass, with a structure given to it by a minority of select individuals. The Christian Church is constituted in the last resort by Christ and his followers. The very word *society* derives from the Latin root *seq* = *follow*,[2] and the matter is obvious in the simplest form of society, in conversation. In a group of half a dozen people talking together, the undifferentiated mass of speakers is soon articulated into two parts, one of which directs the other in the conversation, giving more than it receives. Otherwise, if the inferior part refuses to be directed and influenced by the superior, conversation becomes impossible. It is futile to discuss whether a society ought to be aristocratic, though the criterion of selecting the aristocracy is open to question. 'Where there is not a minority acting on a collective mass and a mass capable of accepting the influence of a minority, there is no society or it comes very near not being one' (pp. 407; 800 sq.).

Hence a nation rises and falls with the rise and fall of its aristocracy.

[1]Where not otherwise stated, references are to the pages of the two volumes of collected works: *Obras de José Ortega y Gasset*, tercera edición, Espasa-Calpe, Madrid, 1943.

[2]Ortega has Vico's gift of extracting from words the history preserved in them.

A nation grows not by an expansion of some original nucleus, but by incorporating other elements. A sheer extension of boundaries produces no lasting organization. Every lasting organization like Rome proceeded by synoecism or incorporation, not by swallowing up other entities but by including both the others and itself in a higher unity. Incorporation consists in bringing together into a new whole social groups which previously were independent wholes, and conversely disintegration implies that the component parts begin to live as separate wholes.

How is incorporation achieved? To command is not simply to compel or simply to persuade, but an exquisite mixture of both. Force is required to prevent chaos, but in every genuine incorporation it has an adjectival character, and the substantial power which impels and nourishes the process is a national dogma, an exciting project of life together. The groups which make up a state live together not because they exist side by side, but in order to do something together. Thus it was Castile which brought Spain together, when Spain was an ideal to be realized and not an already existent entity, by inventing grand enterprises and placing itself at the service of lofty legal, moral and religious ideas. It this way it overcame its own *particularism* and invited the other peoples of the Peninsula to join in a gigantic project of life together. When in the time of Philip III the Castilian nobles became suspicious, narrow-minded and no longer interested in other regions, they unmade Spain just as they had made it. Gradually the overseas possessions fell away, until in the present century separatism affected the Peninsula itself. The Basques' and Catalans' complaints of being oppressed, though certainly unjustified, sprang from a genuine feeling that they no longer counted.

Particularism implies the division into water-tight compartments of groups that do not reckon with the ideas of the rest or even have any curiosity about them. It is even worse when particularism affects not only regions but also social groups like the bourgeoisie, the army and the proletariat, for the different regions can at a pinch live in separation from each other, whereas social classes are from their nature interconnected. From particularism flows a propensity to direct action, in contempt of the public institutions which exist for the sake of bringing different individuals and groups into contact with each other.

Epochs of decadence are those in which the governing minority has lost the good qualities which occasioned its rise. The masses rightly rebel against an ineffective and corrupt aristocracy, but generalizing their objection to that particular aristocracy, they attempt to eliminate the possibility of any such superior minority and feel rancour against anyone who actually is outstanding. This is not a matter of politics alone, for the field of politics comprises only the surface of society, and political sickness does not involve the sickness of the whole national body, as is patent from the example of the U.S.A., which made gigantic advances despite the immorality of its political life. Nor does this rebellion against any aristocracy concern only the labouring classes, for it affects the technical experts outside

their special subject, and indeed the decay begins among the upper classes, who first refuse to follow and be taught by any outstanding minority. This rebellion is not a genuine rebellion, for ' the only genuine rebellion is creation —a rebellion against nothing ' (p. 1354), but there is no hope of overcoming *aristophobia* by reasoning, just because the masses refuse to be taught. Only by suffering can they learn that things are more complicated than they suppose and that it is their mission not to rule but to follow. When this frame of mind is reached, a new aristocracy is usually formed.

To begin with, however, the rebellion of the masses leads to historical spinelessness, the extreme case of which is seen in peoples without an aristocracy, peoples of peasants, fellahin or mujiks. People of this sort do not participate in great historic struggles ; they spend their time in sowing and reaping and tasks of that nature, ' prisoners in the unvarying cycle of their vegetative destiny ' (p. 823). There is an instructive difference between the colonization of S. America, which was a popular movement, and the colonization of N. America, which was carried out by select minorities, either powerful commercial interests or a select group seeking lands where they might serve God better. The Spanish *people* populated and cultivated their new lands, but they could not give to the nations they engendered what they did not possess themselves, a superior discipline, a lively culture, and a progressive civilization (p. 822).

The unity of a nation is dynamic, not static, and its strength derives from the strength of the units previously independent. Owing to the weakness of feudalism in their country the Spaniards attained a unified system sooner than the English and the French and so got ahead of them, but they fell away equally quickly. The weakness of their nobility was a misfortune. Indeed if they had had the same sort of vigorous nobility as in England and France, they would probably not have taken eight centuries to win back the Peninsula from the Moors but would have affected a real Reconquest, ' as elsewhere there were the Crusades, marvellous examples of vital exuberance, of superabundant energy, of sublime historic sportsmanship ' (p. 819).

The sporting character of human existence which Ortega emphasises in every branch of human conduct entails a certain utopianism. He distinguishes between the bad utopianism which consists in supposing that what is desirable is possible and indeed quite easy just because it is desirable, and the good utopianism which means reckoning with nature, seeing things in their crude reality, and then opposing nature and gaily endeavouring to reform it so as to realize what is impossible of achievement. The good utopian recognizes that what is desirable, such as understanding someone, is very difficult and can only be achieved approximately, but that it is possible to approximate more or less closely. Human existence consists of endeavour which finds its fulfilment in itself and not in its result, so that universal history displays man's inexhaustible capacity for inventing unrealizable projects. In the endeavour to achieve these he does not achieve what he set out to achieve, but he does succeed in creating countless things that nature could never produce by itself (pp. 1367 ff.).

This recognition of the sporting character of human life involves the negation of the transcendence or extraneousness of value to human life. Ortega persistently satirizes what he styles cultural bigotry (*beatería de la cultura*), bigotry being neither worship nor enthusiasm but an excess of both. The cultural bigot forgets that culture has been produced for the sake of human life and would have it as an end to be served by life. Equally Ortega opposes the conception of life as pure natural existence, brute impulse and appetite. In an essay of 1909, he dealt sarcastically with the kind of sincerity championed by Miguel de Unamuno. Sincerity, he then remarked, seems to consist in everyone's having to say what he thinks, in the avoidance of all conventionality, whether it be called logic, ethics, aesthetics or good breeding. Sincerity is the demand of people who feel themselves weak and cannot thrive in austere surroundings, among firm and adamantine standards. 'When anyone tells me that he is going to be sincere with me, I always expect either that he is going to relate some personal incident which is interesting only to him, or else that he is going to offer me some piece of rudeness. All the cynic philosophers have made their entry into society draped in the rags of frankness. What should we be without conventionalities? What is culture without some conventionality? The sincere, the spontaneous in man is unquestionably the gorilla. The rest, that which transcends and overcomes the gorilla, is the reflective, the conventional, the artificial'. The logical law, the moral rule, the aesthetic ideal, all these standards are conventions, not corresponding to any material reality. They are not things but condensations of spirit, the superflous gratuity with which we enrich nature's avarice. As soon as we are sincere, the gorilla in us rises and reclaims its rights: only by dint of fictions and phantasmagorias do we keep it chained (*Mocedades* pp. 51-3).[3]

The importance of this passage as heralding the later developments of Ortega's thought is rightly emphasised by a Mexican Jesuit, José Sánchez Villaseñor, in his book *Ortega y Gasset, Existentialist* (Am. tr. Joseph Small, S.J. pp. 29 sqq.). Admittedly, by representing as Ortega's own views what Ortega propounds as the outcome of Unamuno's false standpoint of sincerity, viz. that the Muse is only the exciting name given by the poets to their cerebral congestions, that Virtue is reduced to a particular class of muscular inhibitions, and that Truth is a normal hallucination, and by glossing Ortega's championed conventionalities as mere conventions, values in which no credence is placed, Father Sánchez is out to build up his indictment of Ortega as a bitter sceptic, a pessimist, a dilettante, an existentialist, in short, as tainted with a multitude of hideous errors flowing from the Reformation. Seriously, however, Ortega's vindication of conventionality is important because it involves the reversal of the old Greek preference of what exists by nature (φύσει) and is accordingly uniform and invariable, like fire which burns the same in the East as in the West and the stone which always falls to the ground however often thrown up, to what exists

[3] *Mocedades* (i.e. Juvenilia) segunda edición, Espasa-Calpe, Argentina.

by convention or institution (*νόμῳ, θέσει*) and being the product of human effort varies from place to place and generation to generation. So strong was this preference that the Sophists' attribution of morality to the sphere of institution left Socrates and his successors no remedy but to attempt to transfer morality to the sphere of nature, either by arguing that morality was the only means of attaining happiness, understood as the end at which every human being aimed directly or indirectly in every action, or else by claiming the existence of an unalterable natural law as the pattern and ground of human laws and morals. This preference is discarded in the New Testament, e.g. Mk. 3,35 ' For whosoever shall do the will of God, the same is my brother, and sister, and mother ', and I Jn. 5,1 ' Whosoever believeth that Jesus is the Christ is begotten of God '. The Greek Fathers, however, when considering whether Jesus was the Son of God *φύσει* (*by nature*) or *θέσει* (*by institution*, in this context—as in classical Greek—*by adoption*) decided for the former alternative. Indeed the Greek preference is tempting so long as man is conceived as having a nature, i.e. a fixed structure underlying all the vicissitudes of his history.

Ortega, far from seeking to derive human values from nature, endorses the Christian doctrine that by nature man is an evil beast. The mission of man, that which gives meaning to his endeavours, is to struggle against nature (pp. 1368 sq.). The term mission (*misión*) is Ortega's favourite ethical term. Its theological associations could have no terrors for him, in view of his avowed theism (pp. 529-31), and it has the merit of bringing out straight away that an obligation concerns an individual in a concrete situation. A mission, Ortega himself explains, is what a man has to do in his life. This necessity of having to do something is, however, a strange condition quite unlike the necessity by which a stone gravitates towards the centre of the earth. The stone cannot help falling, but a man can quite well not do what he has to do. In the second case ' the necessity is clean contrary to any sort of compulsion, it is an invitation. Could there be anything more courtly ? Man sees himself invited to give his assent to what is necessary '. Now this privilege of man in having proposed to him, and not imposed on him, what he has to do implies that in every moment of his life he encounters different possibilities of action and being, that he has himself to decide on one of them and that it is his sole responsibility. Whereas other entities have a being that is given to them ready-made and are what they are straight away, human life has the character of the realization of an imperative. It rests in our hands to will to realize it or not, to be faithful or unfaithful to our vocation, the call to the type of life which most appeals to us when we picture different types in our imagination. But what we truly have to do does not rest with us, it is inexorably proposed. In this connection Ortega draws attention to the Latin word for duty, *officium*. The word comes from *ob* and *facere*, the preposition *ob* meaning as usual to go out to meet something readily, in this case an action. *Officium* is doing without hesitation or delay what is due, the task that presents itself as admitting of no excuse. Every human life has a mission.

A mission is the consciousness that every man has of his wholly genuine being which he is called to realize. Hence just as there is no mission without a man, so without a mission, there is no man (pp. 1300-05).

What, then, is a man? A man is not his body, which he finds and has to live with whether it be healthy or not. Nor is he even his mind, which again he finds and has to use in order to live; he is not his memory, retentive or poor, nor his will, firm or weak, nor his intelligence, keen or dull. A man's life is nothing but the effort to realize a definite programme or project of existence, and his self is this imaginary programme, not a thing, as body and mind are, but a programme as such, something that does not yet exist but aspires to be. This programme is not a plan or idea conceived by a man and freely chosen. It is prior to all the ideas formed by his intelligence and to all the decisions of his will (p. 1399).

Human life is accordingly self-fabrication (*autofabricarse*), not a state of being but a task, the remoulding of nature to realize a human programme. Man has no fixed structure because he makes himself what he is. History is a dialectic in which man invents a programme of life to give an answer to the difficulties put to him by his surroundings, finds by experience its shortcomings, both its inadequacy to meet the original difficulties and its production of fresh ones, and then draws up a new programme in the light both of his surroundings and of his experience with the former programme.[4] This view of history comprehends two insights constantly recurring in Ortega's works, the first, our indebtedness to past traditions which enable us to avoid starting from scratch, and the second, the need for continual effort and inventiveness on our part to escape not only the mummification familiar as Byzantinism or mandarinism, but even a total reversion to the animal stage from which, with occasional and partial retrogressions, we have managed to rise.

Nature is remoulded through technique. Technique is the invention and execution of the means of satisfying human necessities in the world, which itself offers both facilities and difficulties, such as distance which is a help when it is between a man and his foes and a hindrance when it is between him and his food. Human necessities are not the same as the prerequisites of survival, for the latter are merely hypothetical necessities, depending on the wish to survive. A necessity in human life is that without which a man does not choose to live, something superfluous for the mere protraction of existence. In fact it is a matter of dispute whether fire was first used to keep away the cold or to produce an intoxicating stupor, and whether the hunting bow preceded the musical bow. The programme of life comprising such human necessities is pre-technical, the invention par excellence.

Ortega expects to be confronted with the objection that this conception of a programme of life is mystical and abstract. He counters this objection by mentioning some actual programmes which have been made concrete

[4] 'History as a System' *passim* in *Philosophy and History*—Essays presented to Ernst Cassirer, ed. R. Klibansky and H. J. Paton, pp. 283-322.

in history : the Bodhisattva, the athletic man of the sixth century Greek aristocracy, the good republican of early Rome and the Stoic of the Empire, the medieval ascetic, the sixteenth century Spanish hidalgo, the seventeenth century French *homme de bonne compagnie*, the German *schöne Seele* of the end of the eighteenth century, the *Dichter und Denker* of the beginning of the nineteenth, and the English gentleman of 1850.

It is worth dwelling on Ortega's elucidation of the ideal of the English gentleman (although it was written in 1933, when already he feared the rapid disappearance of the type from Britain) because, as he observes himself, it shows in striking form the extranatural character of a programme of life. To be a gentleman is to apply to the serious things of life the kind of behaviour usually adopted in the brief moments in which a man ceases to be oppressed with the cares and serious concerns of life and devotes himself to a game. The ideal is that a man should be in the unavoidable struggle with his environment what he is in the unreal and purely invented recess of his games and sports. A game is a luxury of life and presupposes a mastery over the lower zones of existence sufficient to allow an ample margin of calm and serenity instead of the flurry and frantic haste of a life in which everything is a terrible problem. In a game a man permits himself the luxury of fair play, of being just, of defending his own rights while respecting other peoples', and of refraining from lies. To lie is to falsify the game, and so not to play it. A game is an effort, but because it is not one imposed by circumstances it is self-subsistent and free from the anxiety which injects into work the necessity of attaining its aim at any cost.

This accounts for the manners of the gentleman, his spirit of justice, his truthfulness, his complete control over himself based on his previous control over his surroundings, his clear consciousness of his rights at others' hands and of theirs at his, i.e. of his duties. Deceit has no meaning for him. What he does, he has to do well without concerning himself further. With the English industrial product similarly everything is good, solid and finished, both the materials and the workmanship. It is not made to be sold regardless of what it is, and there is little advertisement. In politics again there are no phrases or shams, no intolerance, and few laws. A people of gentlemen do not need a constitution ; hence strictly England got on very well without one. Although this ideal was invented by the upper classes, it was possible for the middle and even the lower classes to share it in some measure, and this will always remain one of the marvels of history.

In contrast to the Bodhisattva, who aspires to live as little as he can and accordingly devises the techniques of insensibility, catalepsy, concentration, etc., the gentleman aspires to live intensely in this world, to centre on himself and nourish himself with a sense of independence of everything. In heaven it will be meaningless to be a gentleman, for there existence itself will as a matter of fact be the delight of a game, and what the gentleman aspires to be is a sportsman in the crudity of this world. Because he knows the difficulty of turning existence into a sport, he sets about securing the requisite mastery over circumstances, and therefore he has been the great technician and the great statesman.

His desire to be an individual and give his wordly destiny the grace of a game makes him feel the necessity of separating himself even physically from other people and things and of attending to the care of his body. Cleanliness, his change of linen and his bath are matters that the gentleman takes very seriously, and the water-closet was invented in England. This ideal, however, presupposes the wealth that it strives to create, and can it persist in poverty? A model type of life needs to be excogitated which will preserve the best in the gentleman and also be compatible with the poverty which threatens our planet (pp. 1570-1576).

Now obviously the realization of any project implies a conception of the world in which it is to be realized. Ortega distinguishes between an idea, something which occurs to us whether we originate it ourselves or adopt it from somebody else, and a belief, something on which we count whether we think of it or not. When we go out of the house we do not assert, deny or doubt the existence of the street; we do not question it at all. It is a presupposition, nevertheless, on which we count, for we should be tremendously surprised if we came on an abyss instead of the street. Reality for us is constituted by our beliefs rather than by our ideas, for to ask whether an idea is true implies that it is other than the reality to which it relates, and even though an idea commands our assent when we think of it, we need not be thinking of it, whereas a belief is that on which we count whether we are thinking of it or not. Hence for the understanding of a man or an age, of what marks them off from other men and ages, it is the beliefs that are more important than the ideas. As an instance of such a fundamental belief Ortega gives our belief that the earth is firm[5] despite the earthquakes that occasionally shake it, and suggests as an instructive introductory exercise in historical thinking working out the main lines of the radical changes in human life that would follow from the disappearance of this belief.

It is interesting that Ortega should be drawing this distinction between ideas and beliefs in an essay *Ideas y creencias* dated 1934, shortly before R. G. Collingwood wrote his *Essay on Metaphysics*, which puts forward a similar distinction between propositions and presuppositions. Yet there is an important divergence between the two philosophers. According to Collingwood there are absolute presuppositions which are not the answer to any question and therefore are neither true nor false; but there is no one constellation of presuppositions common to every age; different ages have different sets of presuppositions, for a constellation of such presuppositions, and with it the entire fabric of civilisation gives place to another owing to its own 'internal strains'. With this conception Collingwood plunges headlong into the positivism from which he was struggling to rise. For if an absolute presupposition, or a constellation of them, is simply either held or abandoned and does not admit of justification, and if the change from one to another is due to the 'strain' to which the first is sub-

[5] In a characteristic footnote Ortega remarks that the Spanish word for earth, *tierra*, comes from the Latin **tersa* = dry, solid.

jected, then historiography becomes a reconstruction in the last resort not of actions but of events or phenomena, not of the criteriological but of the merely factual, the breaking under strain of an absolute presupposition like the breaking of a shoelace.

On Ortega's view, on the other hand, not only do ideas have to be invented as a life-belt to save us from sinking when a belief of ours is shattered by a doubt (which is not unbelief or disbelief, for these are as stable as belief, but an unstable fluctuation between two beliefs) but every belief begins as an idea and is only subsequently accepted and consolidated into a belief. On his view, then, the succession of beliefs belongs to the historical level and is not a sheer natural fact. The truth of this view is indirectly confirmed by Collingwood's own discussion of the position of Thales, for he says that Thales was 'fighting for' a principle 'we so lightly take for granted' (*op. cit.*, p. 206), and there could be no fighting for, i.e. striving to establish against resistance, an absolute presupposition that is neither better nor worse than any other absolute presupposition, i.e. something that would not admit of being established.

There is the same divergence between the two over the articulation of beliefs. Collingwood, denying that a constellation of presuppositions forms a deductive system, considers that they are no more than compatible with each other and that none can be deduced from any other any more than waistcoat can be deduced from trousers or from trousers and coat together (*op. cit.*, p. 67). Ortega, on the other hand, contends that beliefs, while an incoherent repertory as ideas, do constitute a system in so far as they are effective beliefs, that they function as a hierarchy in so far as they are acted upon (*History as a System*, p. 284).

If beliefs were originally ideas, human inventions interpreting reality, what is the primary, naked, genuine reality? According to Ortega it is a pure enigma, a pre-intellectual enigma to which we react by operating our intellectual apparatus, which is mainly imagination. Science as well as poetry belongs to the realm of imagination, and the exactitude of the triangle or of the physicist's atom is like that of Hamlet, an exactitude belonging not to reality but to the imagination; they are solutions to our problems but not what sets the problems. Not content with having thus distinguished (*a*) bare primary reality, (*b*) the external world that we call reality because constituted by our beliefs, and (*c*) the inner world of imagination, Ortega desiderates the articulation of this inner world, the determination of the connexion between science, religion, worldly wisdom, poetry, and philosophy, a task in his view hardly attempted yet and mishandled owing to the treatment of these various activities as permanent faculties or resources, when actually they all had a definite beginning in history. Philosophy, for example, becomes clearly distinguishable in the fifth century B.C., while science appears with marked features of its own only in the seventeenth century A.D. What has been done, he remarks, has been to form a clear idea of some chronologically determined activity, look for something like it in every epoch, even though there is nothing very like it and the idea is made

so vague that its original point is lost, and then conclude that man in every epoch has been religious, scientific, etc. (pp. 1681-85).

The justice of Ortega's remark is confirmed by a study of Croce and the Actualists, Giovanni Gentile and Guido de Ruggiero. For although Croce commences by making poetry identical with art and a moment of spirit, he comes in *La Poesia* to treat it more and more narrowly as a rare achievement. Gentile, on the other hand, who adheres tenaciously to the conception of the universality of philosophy as the concrete synthesis of art and religion, the two abstract moments of spirit, proceeds in consistency to maintain that as philosophy is the solving of the problem how to conceive the world so as to be able to live in it, even a man satisfying his hunger is philosophizing, because hunger is a problem the solution of which is eating, and this problem is a matter of his intellect, seeing that with his intellect he can blunt the stimuli that he localizes in his stomach and let himself die of starvation, so that the solution of that problem coincides with the problem of realizing his own life (*Sistema di logica*[2] Vol. II, pp. 223-30). De Ruggiero, again, recognizes that the result of Gentile's line of thought, a result with which he concurs, is to make philosophy no longer a particular moment of spirit but the very fulness of spirit in all its forms (*Modern Philosophy*, Eng. tr. Hannay & Collingwood, p. 359). Certainly it is of vast importance to have shown that philosophy as a professional activity is only doing wittingly what everyone does whether he is aware of it or not, and the conception of philosophy as not merely professed but also lived leads to the historical examination of the ideas on which people have acted, which is just what Ortega advocates. Nevertheless, Gentile, in the lightning sketches wherewith he follows his own doctrine that the justification of a conception is its history, begins with Thales or Parmenides, and De Ruggiero likewise begins his history of philosophy with the Greeks.

Not that Ortega himself does not take thought to be strictly philosophy, all other forms of intellection being secondary or derived from it or consisting in more or less arbitary limitations of the philosophical adventure, which is coming to know what the world is in order to ascertain our genuine business in it (pp. xv sq.). Experimental science maintains itself on a plane of secondary problems, leaving untouched the ultimate decisive questions (p. 628), while mathematics consists of inert thought, which proceeds along indefinitely and mechanically in the same direction, as opposed to alert thought, which is always ready to correct its trajectory, attentive to the reality outside it.[6] Ortega can and does hold, however, both that thought is strictly philosophy and that philosophy began one day in Greece, because he accepts the Aristotelian definition of man as a rational animal only in the sense that rationality is the goal to which mankind is striving, not that reason is a permanently available resource of every man.

Ortega attributes a peculiar importance to the study of the origin of philosophy, in that it discloses what genuine philosophy is. Philosophy is

[6] *Dos prólogos—a un tratado de montería, a una historia de la filosofía*, *Revista de Occidente*, Madrid, 1944, p. 53.

now a social institution, and shares in the spuriousness appertaining to everything social. It may be taken up as a career or from a liking for it, motives which betray their spuriousness by presupposing philosophy as already in existence. Only by retracing the course of philosophy to its source, to the time when it did not yet exist and was first invented, is it possible to liberate ourselves in some measure from the traditions to which we belong and to discern what genuine philosophy is. There is no need to labour this point of Ortega's ; it is enough to recall the case of a celebrated thinker who was trained in a school of philosophy which pretty well reduced philosophy to inflated lexicography and who has been proclaiming in all innocence that philosophical disputes are just disputes over the meanings of words, being trammelled by the traditions of his preceptors and oblivious to the possibility that their philosophy was not what it purported to be.

It is certainly hard to admit the indispensability of the history of philosophy in view of the ordinary histories of philosophy, but then the ordinary textbooks dissatisfy Ortega too. These textbooks, he argues, despite all their undoubted and valuable erudition, provide expositions of doctrine which are nothing more than useful summaries for the present-day philosopher's laboratory, for his private alchemy. Their defect is that they represent philosophies as though they were written by the unknown philosopher, and put all philosophers on the same plane as though they were our contemporaries. Plato, Kant, etc., are simply labels attached to the systems expounded, and when it is said that Plato belonged to the fourth century B.C. this is a chronological note which adds nothing to the exposition of his ideas. An idea, however, is an action devised to meet a definite situation, and it can be grasped only when that situation is understood. Otherwise all that is grasped is the highly abstract ingredient in it which refers to a situation common to everyone. Historical thinking entails taking the standpoint of the past—no matter how we appraise it eventually—because we cannot expect the dead, as we expect the living, to adopt our point of view, and what is required now is not to show how close to us the philosophers of the past are but how far removed from us. Owing to the failure to appreciate this requirement, the ordinary textbooks do not, for instance, take seriously the solemn declarations of Plato and Aristotle that the aim of philosophy is assimilation to God.

When the course of philosophy is traced back to its origin in the sixth century, it turns out to have been devised as a substitute for tradition, which was then failing. After the despair manifested in the Greek wisdom literature, men found in philosophy a way out[7] of the morass of doubt, and thus the curious tradition of philosophy is to be a tradition of non-tradition. Every philosophy aspires to rise above tradition and is nevertheless in the stream of one. Yet there has been a progress in philosophy, and this we can discern by relating all philosophies to our own, which is true not if it be definitive (an impossibility) but if it contains its predecessors in its own

[7]Ortega recalls the significance of the words ὁδός and μέθοδος and the converse ἀπορία.

vitals, recognizing them all as necessary, particularly in the sense that but for their errors we should not have been able to attain our truths. Philosophy is accordingly history of philosophy and *vice versa* (*Dos prólogos*, pp. 139-207).

It is worth observing that this conception of the identity of philosophy with its history had previously been propounded by Gentile, for it illustrates Ortega's own doctrine that a philosopher belongs to his age. Ortega's main philosophical affinities—not that I have any reason for supposing him to be acquainted with their writings—are with Collingwood and the Actualists, i.e. with those who for doxographical convenience may be styled Neo-hegelians. They all take up the Hegelian standpoint that reality is not ready-made but in the making, and that in particular man is to be conceived in terms not of substance but of activity. If, said Hegel, you ask who the English are, the answer is that they are the people who sail the seven seas. Where, however, the Neo-hegelians depart from Hegel is that for him human history is only a reflection in time of the eternal process by which spirit attains consciousness of itself, so that in principle, i.e. in so far as Hegel's own philosophy succeeded in exhibiting this eternal process—though Hegel was very far from claiming such success—it was definitive. For these thinkers, on the other hand, such an eternal process as envisaged by Hegel is not a genuine process because it has from eternity reached its conclusion and therefore admits of no novelty. The real process for them is the continuing process of human history, that process, not admitting of anticipation, in which man makes himself what he is, a process in which Hegel's philosophy has simply one place like any other philosophy. Ortega finds more awareness of the true being of life in Fichte than in Hegel (*History as a System*, p. 301).

The allusion to Fichte is somewhat surprising, but yet it points to a certain Fichtian strain in Ortega's thought. For, if I am not mistaken, Ortega has fallen, despite his avowed antagonism to epistemological idealism, into a sort of Fichtian idealism with the transcendence of a bare enigmatic reality corresponding to Fichte's *Anstoss*, i.e. the reality outside our thinking which cannot be characterized as a thing but only as an impact which sets us off thinking, in an effort, which can never be wholly satisfied, to attain consciousness of the real. Hence while for both Ortega and the Actualists knowledge is coming to know, for Ortega this is because human life is only an effort after clarity, only partial illumination (p. 1694), i.e. a defective condition, whereas for the Actualists the solution of no problem is definitive ' because history is the systematization of the past in an ever new present ' (Adolfo Omodeo, *Paolo di Tarso*. p. viii), i.e. the condition is one of indefectible creativeness.

The bare enigmatic reality of Ortega betrays itself at least as badly as Fichte's *Anstoss*, for an enigma is an obstacle or irritation to our thinking; and therefore a pre-intellectual enigma, if not a contradiction in terms, is a name for the absolutely indeterminate, or just nothing at all. Yet the conception is not a negligible relic in Ortega's thought and must be taken

entirely seriously, since he regards the belief of the intellect that it is the sole reality as the sin of Lucifer who pretended to be like God. If Lucifer imagined that he was like God, that means he supposed that there were within him all the ingredients and conditions to make him the full reality, and not merely a reality obliged to reckon with a higher reality, God. With the idealism begun by Descartes the intellect began to declare itself the sole reality, but though it is directed to reality, it contains things only in the sense of reflecting them like a mirror. The voluntarism which since 1900 has been displacing the old idealism, maintaining that it is the will alone that matters, is not likely to prove an enduring attitude, for it is the intellect which creates the projects among which the will has to decide and for that purpose seeks to penetrate to the truth of the world and of man. Probably once again man will discover that he is not alone, that there are around him strange powers distinct from him with which he has to reckon, and that there are above him higher powers, under whose hand he purely and simply is (pp. 1713-17).

The need for some such conception of a transcendent reality as entertained by Ortega, however untenable such a conception always proves to be, vanishes only when our knowledge of other persons and things is conceived Actualistically as the self-knowledge in us of the whole which contains the other persons, the things and ourselves, this self-knowledge being the act of thinking whereby we deny our isolated singularity and think not for ourselves but for every thinking being. As explained by Gentile when defending Actualism from the charge of pantheism (*Sistema di logica*[2] Vol. II, p. 339), the divinity of spirit asserted is the divinity of that through which, in the words of Paul of Tarsus, man dies to himself to be reborn in Christ. This is the divinity implicit in Luther's declaration that the human will, while ineffective by itself, with the operation of divine Grace possesses divine power. God for Ortega still seems to be only above us and not working in us when we do anything of any worth, although human life could not really be self-fabrication were it conditioned by a transcendent God or nature. 'Hearken not to me but to the Logos' said Heraclitus, and no thinker, however modest, can refrain from claiming universality for his actual thinking. When we question some thought, even our own, we are not questioning the actual thought which is thinking the questionability of what was our thought. It is significant that in his *Prologue to a History of Philosophy* Ortega objects to Hegel's notion of philosophical progress towards a definitive philosophy transcending history that it would imply the arresting and freezing of thought (precisely the Actualist objection from the standpoint not of the defectiveness but of the creativeness of human thought) and advocates constructing the progress of philosophy towards our own philosophy as the only possible criterion.

Because philosophy is self-instantiating, the final test of anyone's philosophy is to ascertain whether it practises what it expounds. How does Ortega's philosophy emerge from this test? The facts speak for themselves. His works have the freshness that, as emphasised by Croce, belongs

to occasional pieces, because they were deliberately addressed to audiences and readers in Spain and Argentina, and it is only in his old age that he is beginning works of consolidation. In considering art, history, philosophy, librarianship and so on, he asks both what they have been and what they ought to be. Has not art gone sour because too high a place in the scale of values was claimed for it and it was elevated to the level of religion? Thus he discusses all problems with reference to historical situations and with an eye to future action.

Yet the self-instantiation of his philosophy goes even further. While he belongs in general to the Neo-hegelians, he is characterized specifically by being the philosopher of sport, for neither in Collingwood nor in the Actualists is there his awareness of man as essentially a sporting being. Collingwood went no further than distinguishing an action from an event, his attitude to sport and fair play being distinctly condescending (*Principles of Art*, p. 73 sq.), and even in De Ruggiero's 1946 Philip Maurice Deneke Lecture *Myths and Ideals* there is not Ortega's firm grasp of the concrete way in which ideals have been the driving force in history. The Actualists espied the promised land rather than entered upon it, for they saw that without an ideal a man degenerates into a beast but hardly recognized the concrete ideals which constitute what the eighteenth century philosophers call the spirit of an age or people. In the eighteenth century conception the spirit of an age is that of which all activities are manifestations, but as it is not determined by itself it remains in any actual case either a concealed tautology (like a force behind the manifestations of that force) or else an exigency, a mere demand that all the activities of an age must in some way be interconnected.

Now in his philosophizing Ortega sallies out gaily in search of the truth, accepting every opportunity to uncover the universal latent in the particular, whether a lecture to librarians, a preface to a book on big game hunting, or a preface to a collection of photographs of Spanish costume. Nor does he blench at expounding Hegel's philosophy of history to the señoritas, though he takes care to dress it in a more gay and attractive garb than the Suabian's own tortured metaphors. He despises the attempt to explain the higher by the lower, which among British philosophers masquerades under the guise of a preference for the 'minimum interpretation'. He advances paradoxes, thinking the existence of professional thinkers pointless if all they are to do is to repeat current opinions (p. 1370), and even predictions, holding it to be the mission of a writer to foresee what is going to be a problem for his readers and give them clear ideas on the question while there is still a breathing-space (p. 1546). Yet the torrent of his ideas, which is capable of sweeping one on from a consideration of picture-frames to a discussion of art, is kept within bounds by a self-discipline mainly attributable, from his own account, to his training at Marburg (p. 587). There is no stravaiging over the universe after the fashion of Coleridge, and all sorts of avenues of thought are merely hinted at or mentioned in footnotes.

What he says, he says because he thinks it worth saying, even granted the possibility of its being totally erroneous. His own philosophy he sets up to be shot down like any other philosophy, in accordance with the Libyan proverb quoted at the end of his *Prologue to a History of Philosophy* : ' Drink of the well, and make way for another '. His philosophy is accordingly not only a philosophy of sport but also a sporting philosophy. Father Sánchez's picture of Ortega as ' the unapproachable gentleman, on whose lips skepticism has painted a thin sneer of irony ' and behind whom ' lies the scoffing features of the Nietzschean Zarathustra ' (*op. cit.*, p. 136), though quaintly redolent of the Cynic Antisthenes's outburst against Plato for looking like a high-stepping charger (Diog. Laert. VI, 7), is not wholly wayward, for Ortega's philosophy just is the philosophy of a gentleman.

A. MacC. Armstrong

Bromley.

THE PROBLEM OF RELATIONS IN CLASSICAL PSYCHOLOGY[1]

Classical psychology[2] came to an end with the victory of the functionalist and behavourist movements that arose in the last decade of the nineteenth century and by 1915 had all but conquered. What occurred in psychology during this brief transition period of about twenty years was nothing less than a major revolution, the virtually complete replacement of one style of thought by another. A corresponding date or short period to mark the rise of classical psychology is not so easy to choose. It has been said, quite aptly I believe, that the first volume of Hartley's *Observations on Man* (1749) is chronologically the first work that a historically naive contemporary psychologist, though he would think it quaint, would yet recognize as a psychological treatise, both because of its subject matter and because of the manner in which the author deals with it. But the historical student knows that Hartley's *Observations* are already the consummation of earlier developments. Locke's *Essay* (1690) certainly contains psychological material and treats it in a manner continuous not only with Hartley's method but also with that which, for example, Thomas Brown used in his *Lectures on the Philosophy of the Human Mind* (1820). And Thomas Brown, like the other writers of the Scottish school, must of course be counted among the main figures of classical psychology. Classical psychology, then, extends over a period of about two hundred years, roughly speaking, from 1700 to 1900. Until some time after the middle of the last century it was substantially English and Scottish and, derivatively, French. Only towards the end did the German contribution, that is, primarily the work of Wundt, Brentano, and the schools that sprang up around them, come to the fore. But such chronological and national clusters, even if they be supplemented by the customary documentary evidences for ' dependence ' and ' influence ', are not all I mean when I speak of classical psychology. My interest and, accordingly, my purpose in this paper is mainly structural or, if you please, logical, rather than in a narrow sense historical. The point, then, is that the authors I have so far singled out denotatively, as it were, do have some-

[1] I am obliged to Mrs. M. S. Madden who upon my suggestion undertook an examination of the works of eight classical psychologists, providing me with a large number of *loci* on relations. Most specific references in this paper are taken from her study. It will be noticed, though, that I have refrained from comments on Hume. The relevant Humean texts are in my opinion so difficult, not to say obscure, and have been the object of so many discussions on the part of historical scholars as well as of systematic philosophers that I thought it neither necessary nor prudent to add to these controversies.

[2] E. G. Boring, *A History of Experimental Psychology* (1929, 2nd ed. 1950) is an excellent factual history of psychology from the Renaissance to the present. See also its companion volume, by the same author, *Sensation and Perception in the History of Experimental Psychology* (1942).

thing in common. They share a style of thought; they are concerned with the same problem; they merely disagree about its solution. Also, they all accept, disagreements 'within the rink'[3] notwithstanding, the same method as the only proper way of arriving at a solution. The common problem is, in James Mill's phrase, the *analysis of the phenomena of the human mind*; the common method is *introspection*. This, let it be noticed, holds for the last, German phase as well. The only difference is that the Germans introduced experimental procedures and also gave a good deal of attention to the laws that connect mental phenomena with the environment on the one hand and with their physiological correlates on the other. (This is what Fechner called outer and inner psychophysics respectively).

It is a measure of the change wrought by the functionalist-behaviourist revolution that contemporary psychologists, particularly if they are Americans, hardly know what their predecessors meant by 'mental analysis' and 'introspection'. And most contemporary psychologists are, for better or for worse, either Americans or under the spell of the massive American achievement in their field during the last two generations. I shall meet this challenge in two ways. First, I shall, before I even state my problem, explain the classical frame of reference. Second, I shall give this explanation by describing schematically some fictitious experiments in the language of behaviourism. The possibility of such translation, unnecessary as it may seem to some, is yet not without interest. For it is, as I hope to show, not a bad way of bringing out the logic of the old issues and, at the same time, avoiding some of the ambiguities that obscured them. On the other hand, this mode of presentation should go a long way toward destroying the prejudice, spawned, as all prejudices, by ignorance and intellectual sloth, that everything that was done in psychology before the advent of Watson is, in principle, unscientific. To be sure, by the time it collapsed, classical psychology had proved a scientific failure in that it could not, even by its own rather lenient standards of experimental reliability, discover the laws of 'analysis' it was looking for. It also is arid or, at least, dated, in that contemporary psychologists, even if they could now establish such laws, would not be particularly interested in them. For functionalism and behaviourism have in the meantime taught them to search for another kind of laws, laws that state under what environmental and motivational conditions (bits of overt behaviour and) mental phenomena, whatever their 'analysis' may be, do occur. But to say all this is one thing. To say that classical psychology is in principle unscientific is another thing.

II

The classical psychologists proposed to 'analyse (decompose)' by 'introspection' all possible total 'mental states (phenomena, conscious contents)' into 'elements'. These elements are themselves conceived as mental states or parts of mental states. They are called elements because,

[3]The phrase is Titchener's.

first, they themselves are supposedly not further decomposable by introspection and, second, all other mental states are thought to 'consist' of them in that any mental state can presumably be 'reconstructed (recomposed)' from its elements. Unfortunately, the precise meaning of the terms I just surrounded by quotation marks is rather obscure; many of the difficulties that plagued the classical psychologists stem from questions that have been raised about them. For instance, it is not at all clear in what sense a mental state A can be said to consist of other such states, a_1, a_2, ... , a_m when none of these a's nor perhaps other states, a'_1, a'_2 . . . . . , a'_m similar to a_1, a_2, ... , a_m respectively, are in fact parts of A. Again, what does it mean to reconstruct a mental state from the elements that occur in its analysis? Writers otherwise as disparate as Kant and Comte thought this particular objection to introspection so powerful that they rejected classical psychology completely and, since it was the only psychology they knew, denied the very possibility of this science. Presently I shall bypass these and other difficulties of the classical formulations by describing my fictitious experiment. But let me first insist on another point. Imagine two paintings, one a landscape and one, say, a reproduction of the *Mona Lisa*, which consist in the pointilist manner of the same numbers and kinds of small colour patches differently arranged. Call A and B the percepts of an observer who views on two different occasions these two pictures and assumes, for simplicity's sake, that his total mental states on the two occasions consist of these percepts only. The class of mental states consisting of his percepts of all the colour patches could then not be offered as an analysis of either A or B, since such an 'analysis' would not permit the unique determination of what it purports to analyse. Different states must yield different classes of elements, otherwise the 'analysis' is not properly an analysis (a term which I use for the product of the activity as well as for the activity) or, as I shall sometimes say, it is not complete. This requirement is, rather obviously, an essential part of the classical idea of analysis; it may even be considered as a (partial) explication of the metaphorical verbs which I surrounded by quotation marks. Most of the classical writers accept the requirement, either explicitly or implicitly; but we shall see that some do, in fact, violate it.

Suppose now that a behaviourist shows to a group of subjects all kinds of things, books, fruits, pictures, and so on. The subjects are supposed to tell on each occasion what they see and in telling it to speak as they ordinarily would. Every time after one of these statements (A, B, C, etc.) has been made, the person is asked what he has seen. But on this occasion he is not free to speak as he ordinarily would. Before the experiment started the subjects were instructed (or, as psychologists now put it, they were given a set) to use in these their second responses only certain kinds of words and only sentences of a certain grammatical structure, e.g., only the names of so-called sensory qualities such as 'green' and 'red' and only sentences of the subject-predicate form such as 'this is green' or 'that is red'. Let us call a_1, a_2, ... , a_m the class of statements elicited as such a second

response following A. The purpose of the experiment is to discover sets of instructions that would enable one to find laws permitting one to infer unambigously the A, B, C, etc., from the $a_1, a_2, \ldots, a_m$; $b_1, b_2, \ldots, b_n$; $c_1, c_2, \ldots, c_l$ etc. This is the schema of my fictitious experiment. Some comments are in order.

1. Obviously such experiments could be made. Nor are there any *a priori* grounds why they could not succeed, though we have ample reason to believe that they would in fact bog down. Such practical failure was, as I have hinted, one of the causes for the eclipse of classical psychology. 2. For the sake of expository convenience I have restricted myself to perceptual situations. The schema can be extended to all kinds of total mental states. 3. The special set induced in our subjects explains what was meant by introspection; the laws that would permit us to infer the first kind of verbal response (A, etc.) from the second (a_1, a_2, ... a_m, etc.) explain the meaning and purpose of what was meant by 'analysis'. 4. How this 'behaviouristic' account avoids the difficulties involved in such traditional terms as 'consisting of', 'decomposing' and 'reconstruction' will, I trust, be evident without further explanation. 5. Demonstrating the significance of the uniqueness requirement in the direction from analysis to phenomenon, this account also shows why no such requirement operates in the opposite direction. To put it as psychologists do, in a manner which, though philosophically muddled, serves their purposes well enough, one and the same meaning may be carried by different contents. In our terms, A may in many cases read 'I remember Paris', yet the visual imagery revealed by analysis may be different in each case.

I said before that while they agreed on their problem, the classical psychologists disagreed about its solution. Loosely speaking, the main issue was how much could be built from how little or, if you please, how elementary the elements could be. To propose a solution or adopt a position meant, in our terms, to indicate the kinds of words and grammatical forms to be admitted into the language of the lower-case letters, a, b, c, etc. And, except for some of the later German work, it was indeed always a matter of kinds rather than of actual lists of admissable terms.

There was never any doubt among those 'within the rink' that some relational judgments (or, as I shall briefly say, relations) can be analysed. But it was highly controversial whether there was a hard core of relations such as, say, that of spatial contiguity which could not be further decomposed so that at least some names of relational characters such as 'contiguous' together with such grammatical forms as 'this is contiguous to that' would have had to be admitted into the language of the lower-case letters. To answer this question affirmatively is to take one of the possible positions. To answer it negatively is to be faced with the task of analysing relations into non-relational elements. This is the problem of relations in classical psychology. To understand the interest it commanded and the amount of controversy it aroused we must start on a new line of thought.

III

Elementarism, as I intend to use the term in this paper, is the thesis that all mental contents can be completely analysed into classes of punctiform elements of the kind exemplified by what we now call sense data or sensa. Thus, the only statements an elementarist familiar with my schema would admit into the lower-case language are either what some now call non-relational atomic sense data statements or equally simple statements about equally minute affective states. I called these elements ' punctiform ' because I think this name helps to emphasize their non-relational character. But in calling them so I do not wish to prejudge the status of extension as an unanalysable character.[4] In other words, these elements are punctiform only in the approximate sense in which the Democritean atoms and the particles of modern physics are punctiform. And just as the latter occupy a definite portion of space,[5] so we find that Spencer, for instance, uses a spatial metaphor involving extension when he explains what he means by ' feeling ', which is his term for sensum. A feeling is a ' portion of consciousness which occupies a place sufficiently large to give it a perceivable individuality ' while feelings of relation are ' characterized by occupying no appreciable part of consciousness '.[6] Titchener illuminates the same contrast by a kinaesthetic metaphor, calling ' palpable ' what I just called ' punctiform ' The attractive image of the flights (relations) and perchings (qualities) which William James coined at the end of the classical period belongs to the same family of explanations.

Unless they are used with great care, some of these metaphors can be very misleading. The point is that only the particulars mentioned in statements of the forms ' $f\ (a)$ ' or ' $r\ (a,\ b)$ ' can conceivably be spoken of as punctiform, extended, or palpable. To say any such thing, either positively or negatively, about a character makes no sense ; in this respect there is no difference between relational characters and qualities. Also, the gap between qualitied particulars and the quality they exemplify is logically just as unbridgeable as that between related pairs and relations. Because of their nominalism the classical psychologists from Locke on were rather vague, not to say confused, on these matters. On the one hand, their nominalism blurred for them the difference between the qualitied particular and the quality. On the other hand, the analogous transition from the related pair to the relation did not occur to them or, if it did, did not appear equally plausible. (This is, in fact, the only meaning I can attribute to the alleged impalpability of relations). But if this is so, then it might appear that to be a nominalist one would have to embrace elementarism. This, I suggest, is one reason why elementarism seemed so attractive to some of the classical psychologists. More precisely, it is a reason in that it helps us to understand, in

[4]Titchener, in his one major disagreement with his master, Wundt, insisted on this irreducibility.

[5]At least, this is so as long as we describe physical space by means of real-number co-ordinates. In such a space mathematical points are, of course, the only real points.

[6]*Principles of Psychology* Vol. 1, p. 164 (New York, 1897).

that specific sense in which a structural analysis can help one to understand historical facts. But there is at least one further reason for this emphasis on elementarism and, consequently, for the felt urgency of the relations problem. This second reason, I am inclined to believe, was also a potent cause and, with some authors, perhaps even a conscious motive. Let me explain.

Well before the end of the seventeenth century a new view of perception had found wide acceptance, even outside the antecedents of the movement with which I am directly concerned.[7] Though the basic logic of this view is that of the old atomistic doctrine, I call it new because it then supplanted Aristotelian thought, the sway of which in this matter had been virtually undisputed for centuries.[8] What I just called the basic logic of this view is not different from that of contemporary theories of perception. Physical processes in the object perceived affect, through changes which they cause in an intervening medium, the sense organs. The physical processes thus initiated in these organs cause, through the intermediary of the afferent neural mechanisms, another such process in the central nervous system. This process ' corresponds ' to the percept. How to account properly for this ' correspondence ' is, of course, one of the major problems or, as some of us now prefer to say, one of the major ' puzzles ' of our philosophical tradition. For surely not everybody accepted then or accepts now as a complete explanation Hobbes's formula that our mental contents are ' phantasms ', since they are ' really ' nothing but internal motions of, as he put it, the innermost parts of our organs. But it so happens that for what I am about in this paper it is important to consider what people then did take for granted as well as on what they disagreed. I suggest that after the atomistic philosophy had come to its first British fruition in Hobbes it was taken for granted that *some* of its contents were impressed upon the mind *from without*. Controversial was the ontological status of mind and, not unconnected with this, whether it was wholly passive in the sense that (1) *all* contents are of this kind, and (2) they are in no way affected or modified by mind. No great harm will be done if I yield to the temptation of extending the spatial metaphor where it does not belong. I shall say, then, that the issue was the contribution, if any, *from within*.

What will be accepted, uncontroversially, as impressed from without depends, at least in part, on what is held to be ' out there '. For this information we must turn to the physics of those days. If we do this, we find physics casting itself in the mould of atomism, not only during the period that set the pattern for classical psychology but throughout its course. To be sure, this claim must be carefully restricted to physics ; in philosophy and psychology the story is quite different. Sometimes it even seems to me that the stark contrast between the physiologically orientated psychology

[7] Even the Platonist Henry More embraced the new theory. For the emphasis with which Hobbes rejected the old, see the first (!) chapter of *Leviathan*.

[8] As is shown by Descartes's example, one did not have to be an atomist to hold the new views on perception.

of Descartes and his followers on the one hand and classical British psychology with its characteristic aversion to physiology[9] on the other is best understood as a shrinking away, in England and Scotland, from what were thought to be the materialistic implications of the new physics. But since British physics was in fact atomistic,[10] it stands to reason that what was thought to be out there and what, therefore, could impress itself upon the mind, was implicitly determined by an ontology in the Democritean style. In such a world those ' punctiform ' and ' palpable ' elements, the atoms, are the only sort of thing that is really there, in a sense in which relations are not. Putting it this way, I probably succumb to the kind of overstatement that is so hard to avoid if one wishes to characterise broadly a style of thought. I might be told, for instance, that the spatial arrangement of the shaped and otherwise qualitied atoms, which is relational, is of the very essence in the atomistic ontology, since on this arrangement and on it alone all the differences among the things we perceive with our senses depend. But this is pointing at an inconsistency within atomism rather than a refutation of what I said. For the Greek atomists did not teach that (approximately) punctiform atoms and (relational) space are all ' there is '. Rather, theirs is a world of atoms that are, whirling in a void that is not. Failure to do justice to the ontological status of relations affects the whole of British empiricism.[11] It is, I suggest, an inheritance from the Epicurean line in its ancestry. In psychology it was probably the reason why only non-relational elements seemed acceptable as impressed from without. And there is also the tendency among these psychologists to identify what is impressed from without with what is introspectively irreducible, since what is thus irreducible is, for them, of what our contents really ' consist '. The passage in which Hume compared simple impressions and ideas with atoms, association with gravitational attraction, and the programme of classical psychology with that of Newtonian physics is too well known to require quotation. All this helps us to understand why elementarism was such a fundamental tenet of what I shall permit myself to call the left wing among the classical psychologists. For the only other alternative was, apparently, to have recourse to that contribution from within, which these authors were loath to admit.

So far as the relations problem is concerned, we have, I think, gained some understanding of its prominence. For if I am right in what I said about the impact of the atomistic ontology, then only two solutions seemed

[9]The one noteworthy exception up to the time of Spencer and Bain was the physician Hartley. But even his most ardent disciple, Dr. Priestley, though rather notoriously not lacking in either courage or enthusiasm, thought it wise to jettison the physiological parts of Hartley's system when he tried to defend it at the height of the romantic reaction that coincides chronologically with the trough between the two crests of the associationist wave marked by the appearance of Hartley's *Observations* (1749) and James Mill's *Analysis* (1829).

[10]Boyle and some physical speculations of the Cambridge Platonists are exceptions. But this line soon became submerged and probably had no influence on the classical psychologists.

[11]For a discussion of some implications of this weakness see ' Undefined Descriptive Predicates ', *Journal of Philosophical and Phenomenological Research*, 1947, pp. 55-82.

possible. Either relations can, in the elementaristic fashion, be analysed into non-relational elements, or a contribution from within—more specifically, as we shall presently see, an act—is necessary to account for them. Logically, there is, of course, a third possibility, namely, to treat some relational contents as both introspectively irreducible and impressed from without. But it took more than a century before Thomas Brown hit upon this simple solution.[12] Amazement that this possibility was so long overlooked is among the motives that led to the present analysis. Thomas Brown's example was, in 1885, followed by Herbert Spencer; Kuelpe in Germany took later the same position; and the ontological and introspective irreducibility of relations is, of course, at the very core of the more recent doctrine of *Gestalt*. But these very complex later developments lie beyond the scope of this paper.[13] I turn now to some comments on the two other possible solutions.

IV

The factual failure of elementarism is one thing; its logical possibility is another. For even when an idea is rightly rejected, it makes a difference whether or not it has been rejected on proper grounds. And in the massive onslaught under which the classical psychology fell at the beginning of this century the arguments often got badly scrambled. Two types of elementaristic solution of the relations problem, as of all other problems of 'reconstruction', have been offered. One can be dismissed as inadequate on purely structural grounds; the other is logically possible. In discussing them I shall make use of the schema of A's and a's.

Let a subject be presented several times with a simple arrangement, two monochromatic spots, one green, one red, the green to the left of the red. According to what he notices on each occasion, the subject's first response (A) will sometimes be 'This is green; that is red' (A_1), sometimes 'This is green; that is red; this is to the left of that' (A_2). The a-statement 'This is green; that is red' (a_1, a_2) which, we notice, reads like A_1, can thus not be a complete analysis of A_2. For this would make it an analysis of A_1 as well as of A_2, which violates the uniqueness requirement. This is, of course, the point I have already made, less formally, when I spoke of the landscape and the *Mona Lisa*. Generally, we conclude that the qualitied particulars which are the terms of a relation cannot by themselves be a complete analysis of this relation. Such a proposal hardly deserves to be called a solution; it simply ignores the problem. Yet this 'solution'

[12]Brown stood in the centre, as it were, between the left and the right wings. Insisting on the introspective irreducibility of relations, he was yet unwilling 'to admit the variety of powers, of which Dr. Reid speaks'; i.e., he thought acts 'to be susceptible of still nicer analysis'. For some characteristic passages see his *Lectures on the Philosophy of the Human Mind* (Edinburgh, 1820) vol. II, pp. 187-8; pp. 459-60; vol. III, pp. 14-15; or, in the Philadelphia edition, 1824, vol. I, pp. 432-3; vol. II, p. 146; pp. 242-3.

[13]For some relevant comments on *Gestalt* see 'Holism, Historicism, and Emergence', *Journal of the Philosophy of Science*, 1944, pp. 209-21, and the review of Koehler's *Gestalt Psychology* in *Psychological Bulletin*, 1948, pp. 351-5.

has been offered, with laudable explicitness, by James Mill.[14] To put it as baldly as possible, to be aware of two sensa and to be aware of all the relations they exemplify is for him one and the same thing. The younger Mill, in his famous notes to his father's *Analysis*, criticises such naiveté rather bluntly and sides in effect with Thomas Brown. Whether Hartley must be counted with James Mill as another 'naive' elementarist among the leading figures seems doubtful. What he actually says about relations[15] in his otherwise rather elaborate system is slight and not very clear. Perhaps the following conjecture is not too implausible. One of the main influences on Hartley was, as he himself avers, John Locke, who accounted for relations by an act of comparing. Hartley was bent on eliminating Locke's acts (ideas of reflection) as introspectively irreducible elements; but in this he was all but absorbed by the decomposition of the will. So it may have escaped him that without an act of comparing he was left with the problem of relations on his hands. However that may be, he did at least not explicitly embrace the doctrine later propounded by James Mill.

To consider the second type of elementaristic solution, the one that is logically possible, let the letters A_1; A_2; a_1, a_2 be used as before. a_1 a_2 is, of course, again offered as the analysis of A_1. But A_2 is this time analysed into three elements, a_1, a_2, c, with the third letter standing for an atomic sentence about a third sensum. To fix the ideas, assume that c is about a kinaesthetic datum supposedly corresponding to a minute eye movement from the left to the right. In one case (A_2) this kinaesthetic datum is presumably found in consciousness under the introspective set; in the other case (A_1) it is absent. The factual absurdity of this schematic illustration requires no comment; but logically, it seems, the problem of relations is solved. It looks as if relations among the particulars of non-relational elements could, in principle, be analysed into classes of elements containing, in addition to these elements, further ones that represent, in a logical sense, the relations. However, this is not all there is to it. For assume, next, that our subject sometimes makes the response a_1, a_2, c in the ordinary course of events, that is, when he is not under the introspective set. In symbols, assume that there is an A_3 such that A_3 and a_1, a_2, c read alike. Since a_1, a_2, c can by assumption not be further analysed, for otherwise it could not serve as the analysis of A_2, it follows that it would be a complete analysis of A_3 as well as of A_2. Thus the uniqueness requirement would again be violated. To exclude this vitiating possibility, one has to assume that states of the kind exemplified by a_1, a_2, c occur only under the introspective set. That this *factual* assumption is necessary to make the elementaristic thesis a *logical* possibility has, as far as I know, not been noticed by any of the classical writers. Nor is this very surprising, since

[14] *Analysis of the Phenomena of the Human Mind*, vol. II, pp. 7-11. For J. S. Mill's criticism see pp. 18, 19. (Page references from the second edition, by J. S. Mill and A. Bain, 1878).

[15] *Observations on Man*, vol. I, p. 56. (Page reference from rhe 1791 edition by J. Johnson).

those minute mental states which the *c*'s presumably name have probably never been found at all, under any set, by *bona fide* introspection. Such states were never anything but the brain children of system-building elementarists.

The most elaborate of the later elementaristic systems and representative of all of them is Wundt's.[16] So I shall make it the occasion for a few remarks. Wundt analyses relations, elementaristically and in principle correctly, by means of representing elements. But what he actually does is vastly more complicated than the simple schema that served my own, mainly logical, purposes well enough. Instead of a single kinaesthetic datum he has a highly compounded thing amounting in effect to an act of comparing, only of course a decomposable act whose elements lie, if I may so express myself, side by side with those which they intend. The glue, as it were, that holds large numbers of elements together, so that they can become the analysis of such a thing as ' this is to the left of that ', are the affective rather than the sensory elements among them. This is the core of Wundt's doctrine of apperception, once famous and now virtually forgotten. He himself emphasised this feature and insisted, rather self-righteously, that while his British predecessors had an unduly passive conception of mind, he was thus the first elementarist to do justice to mental activity. We, of course, realize that in the classical sense these tiny feelings or, as he also calls them, affective tones are in his system just as passively impressed from without as visual or auditory sensa. The only difference is that in their case the ' without ' are our bodies. *Habent sua fata verba.*

These little feelings by which Wundt tried to save elementarism have in his system a very peculiar property. A sensory element, say, a visual datum, can occur in all kinds of total states, by itself, in a simple arrangement, or in a very complex percept. A feeling element can occur only in states of the appropriate complexity, for instance, to choose an extreme illustration, the feeling characteristic of doubt only in (the analysis of) states of doubt. (It will be noticed that this is not the point made before about the necessity of excluding the occurrence of certain states). I mention this because it reveals the scientific sterility and triviality to which the classical psychology for all its unimpeachable logic had sunk before its course was run. For what Wundt does here is to smuggle into the jigsaw puzzle one piece that tells what to do with the rest of them. Such a piece is only in a very formalistic sense a piece among pieces.

Wundt's elementarism was rigid, emphatic, and doctrinaire. Yet, to connect it directly with the anti-relational bias of the Democritean ontology would be stretching the point beyond all reason. Like some other German elementarists Wundt came from physiology. So it is much more plausible to say that within the tradition in which he found himself when he turned psychologist he was rather attracted by the minute elements of the British left-wingers, since they reminded him of what he was used to from the lab-

[16] Wundt's *Outlines of Psychology* (trans. by C. H. Judd, 1902) is concise and still readable. Concerning relations see pp. 278 ff.

oratory; and, on the other hand, that he was somewhat repelled by the more dialectical and philosophical atmosphere in the writings of the right wing, that is, in the main, the Scottish school. There is, I believe, a structural point behind this historical conjecture. The physiologist may, and sometimes actually will, find it useful to analyse the stimulation from a perceptual object as it impinges on the sensory surfaces into 'punctiform' elements, each tiny enough to be the adequate cause of the process in a single nerve or even a single fibre. Nor does he neglect the relational features of the stimulus object when he proceeds in this manner. For all the cues we receive from an object depend indeed only on which fibre is hit when and by what. But to conclude from this that corresponding and correspondingly minute elements can be found introspectively is to confuse two very different sorts of things with each other. I do not claim that this fallacy was explicitly committed by anybody. All I wish to say is that during the German phase an elementaristic suggestion from physiology had taken the place of that from the atomistic ontology. In fact, there was probably still another such suggestion effective during that time. I shall call it the genetic suggestion, since what I have in mind is the very foolish idea that an infant, if it could only introspect and report, would tell us that his world is a chaos of isolated sensa and feelings. But to analyse the impact of genetic and evolutionary thought on the last phase of classical psychology is beyond the scope of this paper.

V

The contribution from within on which the right wing insists is the indecomposable act or, in Locke's phrase, the simple idea of reflection. It has long been the fashion, particularly among psychologists even before the rise of behaviourism, to consider acts as philosophers' fancies. So I shall first of all briefly establish that this is a prejudice, as I did once before with respect to the ideas of introspection and mental analysis. Even the behaviourist cannot dismiss the act and, on the other hand, there is no reason why he could not account for it. For his subjects do sometimes say 'This is red' (A_1) and sometimes, on the same external occasion, 'I see that this is red' (A_2). Simply to neglect this difference, as again James Mill most explicitly proposed, is high-handed to say the least; and it certainly should not make psychological sense to a behaviourist for whom the verbalisation is part of the mental state, if not the state itself. Thus, within the classical frame of reference, since A_1 and A_2 are different, so must their respective analyses be. To account for this difference by an additional irreducible constituent in the analysis of A_2 that stands to the elements in the analysis of A_1 in that peculiar nexus which we express by the dependent clause after the verbs of awareness is, on the face of it, just as reasonable as anything else. Nor, by the way, would the admission of such a constituent imply that our minds are active in the sense in which this was at issue between the left and the right wing, particularly during the British phase. But it seems safe to say that this was not then realised. Had it been realised,

one of the major points I have tried to make would indeed come to nought. It should also be noticed that I have in this argument restricted myself to the humble 'seeing' and not argued from those more conspicuous and undeniably significant acts that are now spoken of as the propositional attitudes.

The *Locus classicus* for the act solution of the relations problem is Bk. II, ch. 12 of Locke's *Essay*. Having finished his inventory of the several kinds of simple ideas and turning to those he calls complex, Locke lists there among the acts of the mind that of 'bringing two ideas, whether simple or complex, together, and setting them by one another so as to take a view of them at once, without uniting them into one, by which way it gets all its ideas of relations'. One could not wish for a clearer statement, not only of this solution of the relations problem but of the basic idea of the act doctrine as a whole, a doctrine that dissatisfied Hartley because, as he said, it assumed 'an eye within the eye' and which, for the same reason, satisfied others. I shall restrict myself to two comments about the logic of this solution. 1. Psychologically it is indeed a possible solution since, in terms of the schema I have used, the irreducible act of comparing takes the place of the third element, the additional constituent in the analysis of A_2 which distinguishes it from that of A_1. Philosophically or, if you please, ontologically this solution suffers, not surprisingly, from all the weakness of the classical nominalism. There are only two alternatives. Either a relation between, say, two particulars depends only on the mind or there is something in these particulars themselves which the mind perceives when 'setting them by one another'. The first of these alternatives is repugnant; the second takes us back to where we started. 2. I did not speak of indecomposable acts as elements, calling them constituents instead. The point is, first, that within the classical tradition they are, at least implicitly, conceived as relational and, second, that one term of the relations they exemplify is not a particular but itself one or several elements. The other term is, of course, what the philosophical psychologists had in mind when they entertained the idea of an Empirical Self. Thus it appears that this solution of the relations problem does not really get rid of all indecomposable relations but only of such relations within what is impressed on the mind from without. One may wonder whether this was always as clear as it might have been. As for Locke, I believe a case can be made that it was not clear to him, from the arrangement of the material in the second Book which I have mentioned and, also, from the circumstance that his Self, whatever else it may be, is not the kind of psychological datum it would have to be to serve as the other term of his acts. To say the least Locke was rather vague on the matter; and I incline to attribute this vagueness to that general neglect of relations within the main stream of the empirical tradition of which I have spoken. Only, in this case it was a failure to appreciate the logical rather than the ontological status of relations. However, I do not mean to assert that it is logically impossible to deal with the act so as to escape the relational suggestion of the active

verb.[17] But it is safe to say that this possibility was not even thought of during the classical period.

The account Thomas Reid and his school gave of relations follows Locke. During the German phase Locke's view was held by Brentano and most of his students, the act psychologists, as the representatives of the right wing then came to be called. Yet there is also this important difference between Locke and Brentano that in the latter the Scottish tendency toward direct realism prevailed. For Brentano, acts and acts only are mental; contents, in that narrower sense which excludes acts, he considered as physical. In this Brentano stands alone among all the major figures of nineteenth century Germany, where the preponderant Kantian influence certainly discouraged such views. This is but one sign of the intellectual courage and independence that were so eminently Brentano's. To return to the relations issue, it is worth noticing, I believe, that some of the later Germans on the right wing[18] advocated a pattern of analysis that had all three kinds of irreducible building stones, punctiform elements, acts, and relations among particulars. As far as the logic of mental analysis goes, this pattern is redundant. So we may inquire into the causes of such redundancy. One cause, I think, is the greater sensitivity as to what can actually be achieved by introspection which has always distinguished the right wing as well as the Brownian centre. These authors felt indeed that, like some acts, some relations were simply there, given to consciousness, and that they could not as psychologists do anything about them by way of introspection. But then, it was not necessarily all a matter of psychology. For most classical psychologists, up to the very end, one cannot draw a sharp line separating their psychological from their philosophical interests. And philosophically relations belong indeed to the basic furniture of the world.

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[17]For such an attempt see ' A Positivistic Metaphysics of Consciousness ', *Mind*, 1945, 54, 193-226. It should also be noticed that, in the stricter usage of contemporary logic, relations obtain only among the referents of *terms*. Thus if acts in the classical sense are taken, correctly I believe, to intend the referents of *sentences* (e.g., in the terminology of this paper, elements) then they are not relations and their names belong to a different syntactical category than, say, ' to the left of '. See ' Frequencies, Probabilities, and Positivism ', *Journal of Philosophy and Phenomenological Research*, 1945, pp. 26-44.

[18]E.g., Carl Stumpf, who in 1906 published a monograph with the characteristic title *Erscheinungen und psychische Funktionen*. ' Function ' was then a current term for acts, just as ' power ' and ' faculty ' had been a century earlier.

SCIENTIFIC PHILOSOPHY[1]

The progress of science is to-day the outstanding achievement of the human race. In no other field can we claim without question to have advanced: in art the claim could not be established without dispute; in economics and politics we have failed miserably to solve our most pressing problems; in morality and religion we seem rather to have retrogressed. No doubt there will be different opinions about the degree of pessimism that is appropriate, but difference of opinion is itself usually held to be a mark of frustration rather than one of advance. To the casual observer the history of philosophy appears to be the supreme example of such frustration—a long tale of dispute and contradiction leading nowhere but to greater doubt. Scientists may occasionally disagree, but they pursue a method proved by its successes and built upon a foundation of established fact which that method has certified. Can philosophy not emulate this example, adopt similar methods, achieve similarly reliable results and 'tread the sure path of a science'—the sure path of progress?

Philosophers have cherished this hope at least since Kant, but dispute and disagreement have continued. To-day, however, there are some who confidently claim that the hope has been realized: that philosophy now treads the sure path of a science—not indeed metaphysics, as with Kant, but a new philosophy which has abandoned metaphysics as impossibly unscientific.

1. The Criteria of Science.

If, however, the modern philosopher's claim to be scientific is traced in this way to a desire to progress, we might justifiably suspect his 'scientific philosophy' as the product of an emotional urge; as the result of the emotional appeal of the idea of progress and the desire for the satisfaction of feeling that he was 'in the swim' and was advancing with the inexorable tide. A theory which was no more than the product of such ulterior motives could hardly be scientific, for science is based not on wishful thinking but on systematically established fact and its results can be substantiated only by the use of rigorous logic.

So far at least we may agree with Professor Hans Reichenbach in his condemnation of philosophy as unscientific if it substitutes for logical analysis 'superficial analogies' and 'fanciful pictures' prompted by 'extralogical motives'. He calls for a 'psychology of philosophers'[2] (and he is not the first to do so) as the surest way of explaining their errors and dis-

[1] *The Rise of Scientific Philosophy.* By H. Reichenbach. (Berkeley and Los Angeles: University of California Press. London: Cambridge University Press. 1951. Pp. xii + 333. English price 28s).

[2] *Ibid.*, p. 36 and pp. 308 ff.

agreements, and he claims that contemporary philosophers have discovered a scientific method which is free from the effects of emotional appeals. But unless we are supplied with a *scientific criterion* of scientific method, this claim cannot be countenanced and the modern 'scientific' philosopher too must admit to a psychological analysis of his motives. I have suggested a little of what that might reveal.[3] But until the criteria of scientific philosophy have been examined we should not be justified in calling in the psycho-analyst.

The mere absence of disagreement is no good criterion, for persons actuated by similar 'extralogical motives' will naturally agree; and Professor Reichenbach does not claim that modern 'scientific' philosophy is universally accepted. He is, in fact, astonished at the persistent opposition to it, which he feels can be explained only psychologically.[4] Accordingly, we must look for other criteria.

Reichenbach offers us two, the first of which is the use of logical analysis. 'In the face of error we can ask only for a psychological explanation; truth calls for logical analysis'. Science, he says, is the logical development of problems.[5] Just what he means by logical analysis he does not fully explain in this book, though he has much to say about the historical development of symbolic logic and the general nature of its operation. Without committing myself to agreement with him on this subject, I should be prepared to accept, as the hall-mark of scientific method, reasoning which is rigorous and self-consistent and which follows the argument wherever it leads in the search for truth, undiverted by expediency or interested desire.

This requirement of science has been recognized and accepted at least since the time of Socrates, who (if Plato is to be believed) persistently stated it and emphasized its importance. All the great philosophers of the western tradition demand its observance—certainly all those adversely criticized in the first part of Reichenbach's book. His criticism can be accepted, therefore, only if it is successful in showing that the logic of these philosophers is faulty and that their theories are incoherent. It must not be simply an attempt to impute motives for which the evidence can of necessity be extremely meagre. Before considering his criticism of traditional philosophy in these terms, however, I shall examine the claim to be scientific of the type of philosophy that Reichenbach advocates, using as my standard the extent to which it satisfies the requirements of rigorous logic. If it is found that the so-called 'scientific' philosophy is the result of inconsistent and confused thinking, the epithet will certainly have been mis-applied—and then, if we wish, we may account for the error psychologically.

The second criterion which Reichenbach offers of scientific procedure is adherence to 'the verifiability theory of meaning'.[6] In fact, despite his reiteration of the demand for logical analysis, this principle of verifiability

[3] I have made other suggestions elsewhere: *The Survival of Political Man*, pp. 202-6.
[4] *The Rise of Scientific Philosophy*, p. 308.
[5] *Ibid.*, p. 117.
[6] Cf. *ibid.*, pp. 256-7.

is the only test that he really applies, oblivious of the facts (i) that, in the sense of 'verifiability' used, it is in conflict with the demand for logical consistency and (ii) that the effect of its application is to destroy the efficacy of logic.

(i) It is in conflict with the requirements of logic, first because the whole verifiability theory of meaning depends upon a tacitly assumed metaphysical doctrine which is self-contradictory and incoherent; and secondly because, if verification is taken (as in the theory under discussion) to depend on 'direct observation', and if 'observation' is taken to mean immediate sensory experience, logical analysis soon reveals the impossibility of verifying any statement which is commonly thought to have meaning.

(*a*) 'Human beings', says Reichenbach, 'are things among other things of nature, and they are affected by other things through the mediation of their sense organs'.[7] The 'reactions of the human body' so produced include the invention and use of signs (that is, physical things used to symbolize other physical things) in such a way that the proper correspondence of a sign combination with an actual state of affairs makes it true, and failure so to correspond makes it false. Only such sign combinations as are either true or false are meaningful. The direct verification of meaningful sign combinations is effected by 'direct observation', on which indirect verification also ultimately depends, for it involves 'inductive inferences based on direct observation'.[8] Direct observation is thus the final test of truth. From what follows in the succeeding pages[9] it becomes clear that 'my body' and 'other things' (later called 'other physical things') are constructions produced by 'a process of internal ordering' of sentences reporting direct observations (called 'report sentences') so as to distinguish those which are 'objective' from those which are 'subjective'. The first will fit into a systematic order according to general laws, and the second will not (except by extension of the system in a special way which gives psychological interpretation of 'subjective' report sentences). All report sentences are said to be 'immediately true'[10] and so it becomes plain that 'physical things' (including all signs) are no more than what others have called 'logical constructions' out of experiences reportable in immediately true sentences. Such experiences are presumably what come to us through the sense organs or through other effects upon our bodies of other physical things. But our bodies and sense organs, as well as other physical things which affect them (producing the experiences recorded in report sentences) are no more than constructs out of those experiences. The whole doctrine is, therefore, circular and cannot be maintained without *petitio principii*. If judged by the standard of logical consistency it must then be pronounced unscientific.

(*b*) It is, moreover, unverifiable; for no particular observation can

[7] *Ibid.*, p. 255.
[8] *Ibid.*, p. 257.
[9] *Ibid.*, pp. 260-263.
[10] *Ibid.*, p. 261.

directly inform us that observations can be systematically ordered according to general laws. General laws are not revealed by direct observation. No particular observation can tell us which observations can be systematically ordered, how they can be ordered, or that when they can be ordered they are ' objective '. Reichenbach, in fact, uses the word ' objective ' in two different senses. On p. 261 it means what belongs to a certain order or system of report sentences ; but on the next page it means what is reported when ' my body ' is causally affected by ' other physical things '. But the presence of this causal relation is never revealed by the observation reported or by any which can be reported in a sentence immediately true ; nor can it be discovered by an inductive inference.[11] Consequently, the theory is not only incoherent, but by its own criterion is unverifiable, meaningless and unscientific.

The examples which Reichenbach gives of ' report sentences '[12] are, moreover, misleading. ' It rains ', ' There is a dog ', ' Peter came to see me ', etc., are none of them immediately true. They are all assertions of more less complex facts, each implying the interpretation and inter-connection of a great many observations. Professor Ayer is more precise when he tells us that an immediately true sentence (an ' incorrigible ' proposition) would be the bare report of the occurrence of a single experience.[13] This would state an ' ostensive ' proposition, the possibility of which Ayer at one time denied on the ground that it could contain only demonstrative symbols.[14]

Whenever a sentence conveys information, as do the examples of ' report sentences ' given by Reichenbach, it does more than express an ostensive proposition ; for even a sentence which only describes a present sense experience necessarily goes beyond what is immediately given. It implies classification of the elements (or data) contained in the experience and relation of them in various ways to those of numerous other experiences.[15] This is the case with Reichenbach's examples of report sentences. ' Peter came to see me ' is the report of a past occurrence which, on his own showing, can only be indirectly verified.[16] Even the sentence ' It rains ' is not directly verifiable. Presumably it is intended to convey the fact that here and now drops of water are falling from the clouds to earth, and this involves a number of relations between various objects, earth, clouds, rain-drops, my body, (all of which imply the classification of the sense-data which are referred to them) : spatial interrelations among themselves and with other objects (defining ' here '), relations of before and after, simultaneity and succession (defining ' now '), and so forth, none of which can be directly

[11]Cf. Hume, *Treatise of Human Nature*, Book I, Part IV, Sect. ii, p. 212 (Selby-Bigge).

[12]*Op. cit.*, pp. 257 and 260.

[13]Ayer, *Language, Truth and Logic* (2nd edn.), p. 10.

[14]*Ibid.*, p. 91. He has since modified his view to permit of incorrigible propositions, with the proviso that they can give no information either to their enunciator or to their hearer.

[15]Cf. *ibid.*, pp. 91 ff.

[16]Cf. Reichenbach, *op. cit.*, p. 257.

observed in a single sense-percept. These so-called ' report sentences ' are all empirical hypotheses and all of them require verification. But they cannot be verified by sentences which are immediately true because neither the fact that the objects of direct experience belong to classes nor the fact that they are mutually related is given in a direct experience or in any that can be reported in an immediately true sentence. But if they are not verifiable in this way, they are not (according to the theory) verifiable at all and should be set aside as meaningless. And if report sentences are not verifiable nothing else can be. The criterion of meaning has become inapplicable—has proved unmeaning—and it cannot be accepted as scientific.

(ii) Furthermore, the restriction of meaning to statements empirically verifiable leads Reichenbach (and others of like mind) to deny the existence of what it pleases him to call ' the synthetic a priori '—that is, universal and necessary propositions with informative content. All necessary propositions thus become analytic and so ultimately tautological. The propositions of logic and mathematics (being universal and necessary) are assigned to this class. But as a tautology is self-evident it depends for its truth on no other proposition[17] and consistency in logic becomes a meaningless term. On this theory consistency is no more than synonymity and the demand that science should be logically consistent reduces to the demand that it should say nothing. This must of necessity be the case, for synthetic propositions, *ex hypothesi*, cannot be necessary ; any conjunction of matters of fact is possible, and logic can never be concerned with the factual content of any statement. Empirical or otherwise, therefore, science can conform to the requirements of logic only so far as its statements are tautologous and empty of factual information : so far as it excludes everything of scientific interest.

Moreover, as a tautology can have no logical connection with any other tautology, there can be no universal rules connecting one set of synonymous terms with any other set. The interconnection of implications requisite to show that a direct observation is entailed by an empirical hypothesis consequently cannot be found, and logic is powerless to assist us in any investigation the scientific character of which is to depend on the verifiability of its assertions. ' It rains ', as has been shown, cannot be synonymous with any one sentence reporting a direct observation (i.e. any sentence that is immediately true) ; no more can it be synonymous with a set of such sentences, unless the sentences of the set are mutually not synonymous and are necessarily connected. The possibility of just this sort of connection is what Reichenbach persistently denies, yet the analytic necessity which he admits is useless for the purpose of verification.

This reduction of logic to futility is the direct result of the adoption of the ' verifiability theory of meaning ', which is now seen to be totally unscientific even by its own standards. Why then is it so confidently asserted to be ' an indispensable part of a scientific philosophy ' ?[18] May we not with

[17] Cf. Ayer, *op. cit.*, p. 81.

[18] *The Rise of Scientific Philosophy*, pp. 256-7.

reason suspect that, because the method of empirical science includes observation and experiment (impossible in philosophy), our author, along with a vocal group of colleagues, hopes to share in the respect and prestige enjoyed by the scientists if he proclaims a doctrine which rejects as meaningless whatever is unverifiable. To do so, however, without a scientific examination of the nature of verification, and simply by asserting dogmatically that what is verifiable must entail a sentence which is immediately true (reporting a ' direct observation '), is no part of scientific procedure. The desire to be scientific reveals itself accordingly as an extralogical motive for a thoroughly unsound and unscientific theory.

2. Scientific Verification.

Verification is no more nor less than the establishment of the truth of what is verified, and it is therefore obvious that, if every meaningful statement is either true or false, meaning must depend on the possibility in principle of verification. But that what verifies is ' ostensive ' propositions has been sufficiently disproved. What then is the nature of verification? In order that we may make no mistake about what is and what is not scientific, let us consider the actual process by which a scientist establishes an hypothesis.

I shall take as my example Lavoisier's classical experiments which established the theory of oxidization. By heating a definite weight of mercury in a retort, the outlet of which led into a vessel containing air and inverted over water, he found that, as the metal calcined, the volume of air in the vessel decreased a measurable amount and the weight of the calx exceeded that of the mercury. He then reversed the process by heating the calx in a crucible enclosed in a vessel similarly inverted over water, and found that the volume of air in the vessel increased by the same amount as, in the previous experiment, it had decreased, and the weight of the reformed metal was the same as it had been originally. These results showed that the increase in weight could be correlated with the absorption of a gas, afterwards identified as oxygen, and the loss of weight in the reverse process with the emission of this same gas.

What, in these experiments, is the evidence relevant to the establishment of the oxidization theory ? It is the facts (i) that the air in the enclosed vessel first decreases as the mercury calcines, (ii) that it then increases as the calx is re-converted into metal, (iii) that these changes are the same in quantity, (iv) that they correlate with the observed changes in weight. None of these facts, however, are the bare occurrence of particular sense-data which might be reported in sentences immediately true. They are not even perceived as such. No doubt the movement of the water-levels inside and outside the enclosed vessel is perceived, but it is not barely sensed. What is sensed is interpreted as such movement. Further, all that is sensed is certain colours and lines in various positions. If any of these data can be recorded by means of immediately true (ostensive) sentences, they do not in the least give us what we want. First they must be

interpreted as marks on a measuring scale and the appearance of the miniscus indicating the level of water in a vessel ; then the relative positions of the relevant marks and lines must be interpreted as a reading on the measuring scale. The mere perception of a coincidence between two such marks does not constitute a reading. That implies a whole system of interpretations, involving the knowledge of scales and units of measurement and the behaviour of the measuring instrument, as well as the interpretation of innumerable sensuous apprehensions as the perception of various recognizable bodies, the movement of water-levels and the like.

Even so, the observation of pointer-readings, or coincidence between liquid levels and marks on a scale, is not by itself relevant as evidence for a theory unless it is interpreted in terms of an arrangement of objects and events which gives it significance as the measurement of just what is required. In the example under consideration, the position of the water-levels on the scale has no relevance at all except as an indication of the volume of air enclosed in the vessel. It is such an indication only for an observer who comprehends the whole system of facts involved in the experiment, and it can be accepted as evidence only on certain quite definite (but unstated) assumptions which are not specifically observed (e.g. that the water does not itself emit gas, that the vessel is not porous, and so on). Again the *correlation* of the changes in weight with those in volume cannot be directly observed, it can only be inferred and must be calculated. In more complicated experiments, like the majority of those carried out in modern physics, the greater part of the evidence consists in the results of calculation, results which could never be derived from direct observation.

All this goes to show that any attempt to reduce scientific evidence to bare direct observation deprives it of everything that makes it scientifically relevant—namely, its interpretation in terms of a developed and developing body of systematic knowledge, apart from which no purely sensuous apprehension can have any scientific value or significance. Scientific verification, in short, is not (as is so frequently alleged) comparison of a theory with the facts. The observation of fact is itself an interpretation involving theory and the scientist's purpose is the development of that interpretation, its adjustment and correction to render it coherent whenever some elements in it collide with others, and its integration into a single systematic body of scientific knowledge.

But the systematic interconnection of facts which makes both science and verification possible is not given in ' direct observation '. It is, moreover, impossible without necessary connection between matters of fact and universal rules of correlation. It cannot be built up by means of tautologies and it depends on just that principle of *a priori* synthesis which Reichenbach seeks to exclude from all scientific thinking.

This *a priori* synthesis is what it was once fashionable to call the universal, and Reichenbach attacks all doctrines of the past containing theories of universality other than empirical generalization. We are now in a position to see that scientific method implies a universal which is synthetic, so that

if philosophy is in any way unscientific it cannot be because it accepts and tries to explain this kind of universality. Yet Reichenbach's main indictment of the philosophers of the classical tradition is for their belief in *a priori* synthesis. His criticism, however, is not a logical analysis of the concept, but is an attempt to show that the philosophers are moved by extra-logical considerations (i) in their use of picture-thinking and false analogy as substitutes for explanation, (ii) in their search for certainty (which is in principle unattainable) and (iii) in their desire for moral direction. He himself refuses to admit the possibility of *a priori* synthesis and claims to have made empiricism consistent in a new theory of predictive knowledge, relinquishing all claim to certainty and finally solving the problem of inductive inference.

3. Prediction and the Problem of Induction.

Explanation is defined by Reichenbach as generalization, which, he holds, is always empirical. Generalizations are statements of the '*if-then always*' variety derived from the past experience of repeated factual conjunctions.[19] They are inductive inferences which are always reducible to induction by enumeration.[20] Such generalization, as Hume conclusively proved, is logically unjustifiable, because it depends on the assumption that the course of experience is uniform and that the future will resemble the past, for which there is no empirical evidence. *Ex hypothesi* the assumption cannot be an empirical generalization from past experience, and if it is not true *a priori*, no empirical generalization has any rational basis. If the philosophers of the classical tradition preferred other forms of explanation, therefore, we should not blame them, for other forms could hardly be of less scientific value. But Reichenbach claims to have solved the problem of inductive inference by means of a new account of prediction.[21] This proceeds from a calculus of probabilities based on the frequency of past conjunctions to a general statement of the '*if-then*' type. But this general statement does not claim to be necessarily true (or certain); it is merely posited. The predictive value of such a 'posit' is rated by the number (or ratio) expressing its degree of probability. When we predict, we do so on the ground of an inductive generalization which is a 'posit' probable to a calculable degree. Our prediction is thus a kind of bet, justified by the rating of the 'posit'.

What has been overlooked here is the tacit assumption that the frequency rating entitles us to expect the occurrence of one sort of conjunction rather than another *in the future*, an expectation that presupposes the uniformity of future experience with past. The frequency calculation is, and can only be, based on past experience, and what our 'posit' amounts to is no more than that *in the past* some kind of conjunction of events has occurred with a certain degree of frequency. Again generalizing from past experience,

[19] *Ibid.*, pp. 5-7.
[20] *Ibid.*, pp. 82 ff. and 244.
[21] *Ibid.*, Ch. 14.

Reichenbach asserts that prediction grounded upon frequency probability will probably be successful—that it is the best means of prediction that we have.[22] But, as Hume showed,[23] this assertion itself can only be made on the assumption that the future will resemble the past. It is itself a 'posit' which requires rating, and if it is to be relied on we must make a further estimate of the probability that because past predictions of this kind have generally succeeded they will do so in future. We are thus led into an infinite regress which takes us ever further from the assurance that the future will resemble the past. Reichenbach's theory accordingly does not escape Hume's criticism—unless by the tacit assumption, which he so deplores, of a synthetic *a priori* principle.

4. CERTAINTY.

It is the search for certainty that is said to lead the unscientific philosopher into the doctrine of *a priori* synthesis, and we now see that even the abandonment of the search does not relieve the 'scientific' philosopher of the incubus. Nor is this surprising. To abandon the belief in certain knowledge is *ipso facto* to abandon the belief in probable knowledge. What *is* probable knowledge but that which is probably *true*? And truth in this context can mean no less than certainty.

What is probable is what the evidence permits us to believe to be the case under certain unspecified conditions. It is what, if the evidence were conclusive, would be certain. The statistical laws of modern physics are no exception to this rule. They imply a certainty that the best modern physicists recognize.[24] The velocity of an electron can be precisely determined if its position remains wholly indeterminate; its position can be determined if its velocity is not sought. As the precision in either case becomes less it increases in the other, so that within exact limits of accuracy both can be determined together. These limits are set in such a way that the result of the investigation can be statistically expressed in exact numerical terms. But this result depends on the possibility of precise determination of either factor by itself and on the existence of a precise relation between the two. In other words it is only on the assumption that the electron (or 'wave-packet') has a precise location and a precise velocity (or wave length) that the calculation of their probable values in correlation can be made. That the precise location and velocity cannot be simultaneously determined is irrelevant; they must be presupposed in any probable estimate of their simultaneous values.

The numerical measure of probability is the measure of its distance from certainty. It can have no other significance. The limit to which numerical probability moves as it increases is 1, and that is the measure of certainty.

[22] *Ibid.*, pp. 238 ff. and pp. 246-7.

[23] *Treatise*, Book I, Part III, Section vi, p. 90 (Selby-Bigge).

[24] e.g. Planck and Einstein. See Planck, *Where is Science Going?* (London, 1933), pp. 33 f., 145 ff., 170 ff., and 201 *ad fin.*; *The Universe in the Light of Modern Physics* (London, 1931), p. 84; *The Philosophy of Physics* (London, 1936), Ch. II.

If there is not, and in principle cannot be, certain knowledge, the whole series of fractions expressing the frequency ratios is a meaningless concatenation of symbols. Without 1 there can be no $\frac{1}{2}$ or—in fact no numerical system at all. And if 1 is approached only asymptotically it is not thereby abolished. The search for certainty, so much condemned as unscientific, is an inescapable and indispensable condition of all knowledge—even though the goal is only asymptotically approached.

The belief that the future will resemble the past cannot, as we saw, be founded on empirical generalization, yet few generalizations worth making are ever confined to the past. Neither generalization nor prediction are the result of inductive enumeration. They depend on the construction of a systematic body of knowledge determining necessary connections and providing evidence for future occurrences which, to be sufficient, must be various and reciprocally corroborative. This elaboration of a coherent system is, as I have tried to show, the essence of scientific method and it implies the belief in ultimate systematization—in a completely coherent whole of reality. Such a system would give the whole truth—would be certainty—if we could grasp it entire. But human knowledge always falls far short; though it must presuppose certainty and does approach it insofar as, in its continual advance, it becomes constantly more coherent.

5. 'Objective' Presentation.

There is not space enough to make a detailed examination of Reichenbach's actual criticism of the great philosophers, desirable as that would be; but it is not difficult to show that it reveals the very fault in Reichenbach's own thinking that he imputes to those whom he attacks—failure to examine their subject with the detachment of a disinterested observer and consequent excogitation of conclusions which are not the result of logical argument but of a desire to discover what is congenial.

In his preface Reichenbach warns us that it is not his intention to give an objective presentation of traditional philosophical material, except in the sense that his presentation will 'be objective in the standards of its critique'.[25] The value of these standards has already been considered, and it certainly is the case that objectivity, in the sense of accuracy in reporting the doctrines criticised, is entirely lacking in this work. His misrepresentation of the doctrines of the philosophers is so palpable that, unless it is the result of ignorance, it can be explained only as the blinding influence of a powerful (though unconscious) desire to obtain a preconceived result. If the respect and admiration accorded to the triumphant scientist is to be shared by the modern philosopher, he must support his claim to be scientific, not by merely asserting the verifiability theory, but by showing that those philosophers of the past who have refuted empiricism were unscientific. To do this by scholarly examination of and reply to their arguments is a difficult and tedious undertaking—and might not produce the desired result. The 'extralogical' motive of the 'scientific' philosopher operates, therefore,

[25] *The Rise of Scientific Philosophy*, p. viii.

as the source of inadvertent misrepresentation of doctrines to reveal ulterior motives behind the work of those whom he wishes to discredit.

A few examples will show that this is the case with Professor Reichenbach. To Plato is attributed the argument that because the ' Ideas ' are accessible only to the eye of the mind they must exist, for whatever we see with the bodily eye does exist.[26] The fact that Plato persistently denied reality to the things of the visible world is completely ignored. His reason for attributing superior reality to Ideas is exactly the opposite of what Reichenbach attributes to him. Roughly his argument is that because the the things of the sensible world are in a constant state of flux they cannot be wholly real and that what is at all intelligible in them is due to their participation in Ideas. Reality, for him, is that which is completely knowable and must therefore reside in the Ideas. Whatever its defects, this view is not the product of ' picture-thinking ' or the result of false analogy. It follows a carefully reasoned sequence of thought in a man who was deeply conscious of the difficulties involved in scientific verification and was fully aware that it depended upon a universal of some sort.

Professor Reichenbach also asserts that Plato regarded mathematics as the supreme form of knowledge. It seems that he has omitted Books VI and VII from his reading of the *Republic*.

Every reference to Kant's theory of causality in *The Rise of Scientific Philosophy* displays misunderstanding. ' Applied to the problem of causality, his [Kant's] argument would mean that we develop the notion of cause by finding particular causes, but that the knowledge of the general principle of causality is not logically derived from experiences. This principle, Kant argues, is the logical presupposition of every particular causal law ; therefore it must be assumed true if we want to find such particular causal laws '.[27] Nothing like this or like what follows in Reichenbach's next paragraph can be found in the *Critique*. Reichenbach alleges that Kant bases his argument on our belief that every event must have some cause,[28] but he does no such thing nor does he ground it upon the necessity for presupposing the general principle if particular causes are to be sought. His contention is that if we did not presuppose, what cannot be given in sense, a necessary connection between events, phenomena could not be objectively ordered in time and we could thus have no experience of objects. Particular causal laws and our inveterate belief in their existence are all posterior to our experience of an objective world, and Kant is demonstrating that no such experience is possible—no empirical observation—without *a priori* synthesis, of which the necessary connection between cause and effect is one example.

Reichenbach never comes near to appreciating the force of this argument and so his criticism of Kant is inconsiderable. ' Assume it is correct ', he writes, ' that no experience can ever disprove the *a priori* principles. This means that whatever observations will be made, it will always be possible

[26] *Ibid.*, p. 20.
[27] *Ibid.*, p. 112.
[28] *Ibid.*, p. 42.

to interpret or order them in such a way that these principles are satisfied'.[29] The cart precedes the horse. Kant's doctrine is that no empirical observation of any kind can be made unless the manifold of sensation is ordered and interpreted according to *a priori* categories. There is no observing of phenomena which do not presuppose the categories followed by an ordering in terms of *a priori* principles. The ordering and interpretation is the implicit condition of observation itself. Possibly Kant gives an account of the categories which does not satisfy the modern scientist, but the remedy is to correct that account, not to attempt to abolish the *a priori* synthesis. That Kant's fundamental thesis is by no means unscientific or even outdated in this century many distinguished modern scientists testify.[30]

The criticism of Hegel can hardly be intended as serious and is certainly not worthy of serious comment. Hegel argues, it is alleged, 'that the statement "the rose is red" is a contradiction, because in it the same thing is said to be two different things', and so tries to establish the law of dialectics as a logical law.[31] The 'primitive error' of such a grievous travesty can be corrected only by instruction, for which this article is not the proper place.

These few examples of misrepresentation and misinterpretation are unfortunately typical of nearly every reference to the great philosophers that Professor Reichenbach makes.

6. Modern Science.

For the rest, Reichenbach's account of 'scientific' philosophy is little more than a description of the results of contemporary research in mathematical physics. What he has to say about biology is much less reliable; a little consideration of recent experimental results in that science and of the more important theories of the day would make his conclusion exceedingly doubtful—namely, that the calculus of probabilities is omnicompetent and, given the occurrence of heritable mutations, the laws of probability are sufficient to account for the whole course of biological evolution. The cogency of his proof of this conclusion cannot, he claims, be diminished by any criticism; yet careful attention to experimental results has convinced a most influential body of modern biologists that no such hypothesis can be maintained in their science, that no 'additive' account of living development can explain the facts and that they can be adequately interpreted only in terms of 'organism' and 'system' which exclude the possibility of evolution by fractional change.[32]

In physics, however, Reichenbach is on his own ground, yet his survey of the contemporary position in this field brings him to a conclusion from

[29] *Ibid.*, p. 46.

[30] See Eddington, *The Nature of the Physical World*, p. 244; *Space, Time and Gravitation*, p. 200; *The Philosophy of Physical Science*, pp. 188-9 and *passim*. Cf. also Jeans, *Physics and Philosophy*, pp. 173 and 193.

[31] Reichenbach, *op. cit.*, pp. 69 ff.

[32] See L. von Bertalanffy, *Modern Theories of Development* (Oxford, 1933), pp. 32 ff., 38 ff. and *passim*.

which he should have drawn a different moral. It is that 'the experiences offered by atomic phenomena make it necessary to abandon the idea of a corporeal substance and require a revision of the form of description by means of which we portray physical reality'.[33] The nature of the required revision he does not explain; but the great physicists of the age have told us that physical reality can no longer be regarded as something apart from, alien to and independent of thought. The theory of relativity makes all measurement and description of physical fact dependent upon the choice of a frame of reference, an act of thought which is integral to the very nature of the facts described. It is not simply the effects of motion upon the measuring instrument, as some empiricists have tried to maintain,[34] that are relevant here, because the motion of the instrument cannot be determined absolutely but only by relation to an arbitrarily chosen frame of reference. Physical fact is and can only be what thinking makes it.

But if, in physics, subject and object must be identified, as thinkers like Planck are convinced, and if physical reality turns out to be of the nature of intelligent mind, the revision of our description of it should lead us to substitute *thought* for corporeal substance. And that is precisely what was done by the much abused philosopher Hegel. A passage in which this substitution is made forms the opening quotation of Reichenbach's book where it is derided as the pre-eminent example of unscientific nonsense. 'Reason is substance', says Hegel, 'as well as infinite power,[35] its own infinite material underlying all natural and spiritual life; as also the infinite form; that which sets the material in motion. Reason is the substance from which all things derive their being'. Hegel, moreover, in company with earlier as well as later philosophers, propounded a theory of reality as a coherent and organic totality, and of knowledge as a system constructed on the same principle. These notions are implied in scientific procedure and are presupposed both by the relativistic physics and the 'organismic' biology of the present day; so that in the end Hegel's doctrine proves to be more in harmony with modern science than Reichenbach's own. If we seek for scientific philosophy today, we must look for it in the works of the philosophers who followed Hegel in the classical tradition while they took into account and attempted to give philosophical interpretation of the results of modern science. This tradition leads to the names of such men as Bosanquet, Bergson, Alexander and Whitehead, whose work follows on those 'systems of the nineteenth century' compared by Reichenbach to 'the dead end of a river that after flowing through fertile lands finally dries out in the desert'. The simile is tragically appropriate. The desert sands in which the river of philosophical thought is choked are the arid wastes of self-styled 'scientific philosophy'.

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[33] *The Rise of Scientific Philosophy*, p. 189.

[34] Cf. P. Frank, *Between Physics and Philosophy* (Harvard, 1931), pp. 111-3.

[35] Physics to-day resolves matter into energy and energy into probability waves, which even Reichenbach reduces to a mathematical calculus.

HUMANISM AND REASON

This book[1] aims at a new humanist philosophy—a philosophy of man which puts both the humanities and the natural sciences in their proper place. It consists of two parts—*On the Origin and the Limits of the Humanities* (*Geisteswissenschaften*) by Grassi, and *On the Origin of the Natural Sciences*, by Uexküll. The two parts are loosely connected (by a vague relativistic pragmatism, reminiscent of F. C. S. Schiller who also called himself a humanist, combined with a common abnegation of pragmatist views). No doubt the authors would strongly disagree with this opinion which will only prove to them that the reviewer is incapable of seeing their main point; but their various attempts to stress the identity of their views appear somewhat forced. This, however, does not diminish the value or the interest of either the whole or its two parts.

The first part is a philosophical and literary essay whose main problem is indicated by the German word *Bildung* (often translated by 'culture') which is here understood as the growth, the development, or the self-formation of the human mind; and it attempts to re-establish an educational ideal of mental growth designed to meet the criticisms raised against the *humanistische Bildungsideal* (the educational aim of the humanities) which, according to Grassi, has become pointless owing to the disappearance of the social and cultural traditions in which it was rooted. The text on which Grassi's neo-humanistic sermon is based is a disputation concerning the relative merits of legal and medical science, C. Salutati's *De nobilitate legum et medicinae*. (Written in 1390, it was published in the middle of the fifteenth century; a critical edition by E. Garin was published by the *Instituto di studi filosofici*, Florence, 1947. Together with Petrarch's famous attack on medical men, it is perhaps the earliest ancestor of Kant's *Streit der Fakultaeten*). Grassi takes this as a discussion of the relative merits of the humanities and the natural sciences, and as a vindication of the claims of the humanities to superiority. This superiority, he says, was much better understood at the time when the natural sciences were founded than it is to-day.

The superiority claimed is threefold. First, it is claimed that the various natural sciences have the character of 'arts' (in the sense of *artes* = τέχναι) rather than of science or knowledge (*scientia* or ἐπιστήμη); this means, in Salutati's (and Leonardo's) view, that they have to take their 'principles' (corresponding to Bacon's 'middle principles') from elsewhere, i.e. from philosophical knowledge, and that they are therefore logically inferior to those disciplines which treat of their own principles. Secondly, it is claimed

[1] *Von Ursprung und Grenzen der Geisteswissenschaften und Naturwissenschaften.* By Ernesto Grassi and Thure von Uexküll. (*Studia Humanitatis*, vol. i. Berne: A. Francke. 1950. Pp. 252. Price 12.50 Swiss francs).

(with Francis Bacon) that the natural sciences are arts (*artes*) in the sense of techniques or rather technologies—that they give us power; but such power is not, as Bacon thought, knowledge, for true knowledge springs from first principles (not from secondary or middle principles). Thirdly, although these technologies may be the servants of man, and although they may serve him in his ultimate and essential task of furthering his mental growth, they cannot lead in the solution of this task, since they enquire into reality only within the narrow limits of the presupposed secondary principles without which their efforts would be meaningless.

As opposed to all this, legal science, which is political science, is the science of what is right and what is wrong, and is as such useful to man ('*ius . . . a iuvando*', says Salutati), but in an essential sense, for it 'saves his humanity', it 'aims at his completion'. Only by leaving the primitive jungle or bush (ὕλη) and settling in ordered political communities do men transcend the beasts, as Protagoras taught. This is the first step in their mental growth (*Bildung*), and the basis of all others; and 'human history is nothing but the success or failure of man-designed norms, enabling community life in the political and social spheres to proceed' (p. 106).

This is by no means a complete outline of Grassi's contribution, which deals at length with such problems as the Aristotelian doctrine that all poetry is *imitation*, with problems of the theory of tragedy, especially that of *katharsis*, and with the philosophy of time. Yet the discussion of these latter topics suffers severely from insufficient clarity and coherence; they do not, in my opinion, shed new light of the topics referred to, even though they may contain some interesting asides. Outstanding among these are Grassi's emphasis on *imaginative power* (*Phantasie*) as an essential element of human nature and mental growth, although his hint (pp. 102-3) that its rôle in the natural sciences is confined to that of tracing out their framework does not appear to me to do justice to them. One of the most interesting remarks from the educational or self-educational point of view is Grassi's analysis of the 'humanistic conception of mental growth' (*Bildung*). We may, in trying to interpret a literary passage, discover that in the context in question, the words have an unusual and even a new meaning. 'This leads us to something new and unexpected. An unsuspected world opens itself before us—and thus we "grow" (*und dabei "bilden" wir uns*)'.

Grassi very fairly admits that the natural scientist's mind can 'grow' in precisely the same way when he finds himself compelled to adopt a new 'interpretation' of a natural phenomenon; but this admission seems to me to destroy his attempt to make use of Salutati's arguments to establish the educational priority of the humanities.

Returning to Grassi's central claim—the threefold superiority of the humanities—I admit that the natural sciences are in danger of stifling mental growth rather than furthering it, if they are taught as technologies (the same is probably true of painting and of poetry); and that they should be treated (like painting or poetry) as human achievements, as great adventures of the human mind—in short, as chapters in the history of human

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ideas, of the making of myths, and of their criticism. Neither the possibility of such a humanistic approach to science, nor the need for it, is mentioned by Grassi; on the contrary, he seems to believe that salvation lies in the realisation and explicit recognition of the inferior technological character of the natural sciences, or in other words, in making them keep their place. But while I am ready to admit the educational priority of a 'humanist' approach, I cannot admit the validity of the Grassi-Salutati theory of the natural sciences—a theory which, of course, is directly derived from Aristotle. That the natural sciences have blindly to accept their principles from First Philosophy—this is a view whose truth I cannot admit in any sense. Grassi tries to meet this criticism (p. 52) by admitting that the natural sciences *may* question, criticise, and replace their 'principles' (an admission which seems to me tantamount to abandoning Salutati and Aristotle), and by asserting that it is (*a*) the *aims* of science, and (*b*) the *conception* of a 'principle' (rather than their various principles) which the various natural sciences must blindly presuppose. But this assertion, although quite compatible with it, is nevertheless completely different from the Aristotelian view on which Salutati's argument is based.

The truth of the matter seems to be this. Although medicine happens to be an 'art', a technology, it is a mistake to conclude that it may be taken as a representative natural science; for it is applied, not 'pure' science. As to the latter, I agree that natural science—as opposed to pure mathematics—is not *scientia* or ἐπιστήμη; not, however, because it is a τέχνη, but because it belongs to the realm of δόξα—just, by the way, like the myths which Grassi rightly values so highly. (The realisation that natural science belongs to the realm of δόξα, but that it was usually mistaken, until fairly recently, for ἐπιστήμη is, I believe, of considerable fertility for understanding the history of ideas.) Thus Grassi's central claim that we ought to return to Salutati's superior understanding of the status and significance of the natural sciences seems to me unfounded. Moreover, in Britain at least, the (Aristotelian) view of the matter which Grassi tries to re-establish never lost its hold completely and is therefore not in need of a restatement, not even of one which uses valid arguments.

The second part of the book, written by Thure von Uexküll, is an excitingly original attempt to develop a new theory of science—a biologically orientated epistemology. A beautifully clear piece of writing, perhaps the best piece of contemporary German prose I can recall, it introduces us to a new approach to biology, a development of ideas started by the author's father, Jacob von Uexküll, famous for his *Theoretical Biology*.

The fundamental category (p. 248) of this approach is that of a biological *action* (*Handlung*). To explain it, we may perhaps start from the realisation that the natural sciences try to describe and explain the behaviour of things under various conditions, and especially any order or regularity which may be discovered in this behaviour. This is true for physics, chemistry and biology. In the biological sciences, we are interested in the behaviour of organs, tissues, cells, and, of course, whole organisms. The central idea

of Uexküll's biology is that the most successful way of describing the behaviour of a whole organism is in terms of *actions* which follow certain schematical patterns or ' schemata ', and that these ' schemata of action ' and ' rules of the game ' may be understood as elaborations and modifications of a small number of fundamental schemata and rules. This idea appears at first sight attractive if not very surprising, although one may be inclined to suspend judgment until it has proved its fruitfulness. But the fruitfulness of the idea is, I believe, in fact shown by Uexküll's brilliant application of it to the problem of the behaviour of the parts of the organism (organs, tissues, etc.), and to a most interesting and surprising analysis of ' the significance of physical and chemical methods within biology ' (p. 166).

According to Uexküll's theory, there exists for each kind of organism a definite number of action schemata, each of which is released by a certain ' release-signal ' (*Auslöser*), whose nature can be found by experiment, by constructing an *imitative contraption* (*Attrappe*, dummy). These, in most cases, can be reduced to astonishingly simple schematic representation. The Viennese biologist, Konrad Lorenz, found, for example, that (p. 162) certain species of geese follow, as if it were their ' mother ', the first moving object they encounter upon breaking their shells, and that they continue to do so even when they are confronted by their real mother. For certain other fledglings (p. 169), the imitative contraption for replacing the ' parent ' and operating as a release signal for normal actions (opening their beaks) consists simply of two round pieces of cardboard or sheet metal giving something like a generalised silhouette of the head and body of the parent bird. ' With the help of such imitative contraptions, we can make our entry into the scene of life of some animals. It is a moving and even a shattering experience for a sensitive mind to realise the strangeness of this world. The magical and threatening character of this reality creates an impression before which all our old ideas and conception of nature must fail ' (p. 179). Uexküll's extension of this approach to the problem of tissue-reactions, and of the use of physical and chemical methods, is, I can only repeat, of the greatest interest. He suggests that what we actually do in biochemistry is to construct imitative contraptions (dummies) serviceable as release signals for the actions of organs or tissues. This, I believe, is an idea with a great future, likely to throw much light on some vexed questions. (I have in mind, for example, the question of the functional equivalence of certain chemical and electrical stimuli in some neuro-muscular reactions in the face of even such subtle tests as the measurement of ' end-plate potentials '.)

Encouraged, perhaps, by this successful application, Uexkull tries to apply his fundamental categories to the whole problem of the theory of knowledge. Starting from the Kantian question whether it is possible to know things ' in themselves ', he discusses the old aspirations of physics to discover the innermost secret of nature itself (*das Innere der Natur*), and the failure of these aspirations ; and after an elaborate (but I do not think successful) attempt to determine the rôle of physics in a world of biological

actions, he ultimately arrives at a biological ontology—the doctrine that reality (which can only be *our* world, a reality-for-us), is a structure of actions; of 'actions of various kinds and various extension' (p. 248); and he replaces the problem of our knowledge of the world in itself by that of our participation in the structure of action which is the world.

Although much of this is reminiscent of certain forms of pragmatism, operationism, and instrumentalism, it is, nevertheless, one of the most original attempts since Schopenhauer and Bergson to erect a new metaphysical world, and one capable of accommodating modern science. This new attempt commands respect, but it does not carry conviction. On the contrary, it seems to me clear that Uexküll's theory of knowledge and his ontology are founded upon a mistake. Anybody acquainted with the pitfalls of idealistic epistemology will have no difficulty in seeing that the mistake made must be akin to that of identifying what is with what we know—*esse* = *sciri*. This leads to Berkeley's *esse* = *percipi* as well as to Hegel's *esse* = *concipi*, and it now leads a biologist for whom knowledge is, rightly, a kind of action, to *esse* = *agi*, i.e. the doctrine that 'reality' is the thing acted upon, or the object in the way of action, or a factor—the situational factor—of the schemata of our biological actions.

To be more specific, three mistakes may be pointed out in Uexküll's argument. The first can be found in his analysis describing the failure of the aspirations of physics. This analysis appears to me to exhibit some typical and popular misunderstandings of relativity. (It is a mistake to maintain that the relativist universe does not know continuous time or continuous space, but only 'islandlike space-time-connections'; and it is a mistake to infer, from the principle of the equivalence of reference systems, the relativisation of reality; on the contrary, relativity teaches both the reality and the invariance of spatio-temporal intervals.) Modern physics, most assuredly, attempts to give us a picture of the Universe; whether this is well or badly drawn is, of course, a very different question. If we realise this, the suggestion that we must replace an allegedly dissolving world-view of physics by a new world-view of biology loses much of its force.

The second mistake is an extremely interesting one. It is made at a point where Uexküll blames (p. 201 ff.) Lorenz for reasoning in a circle, and for failing to realise the full consequence of his own (and Uexküll's) new biological attitude. Lorenz, he tells us, believes that the action schemata (including those of 'biological experience') have developed by adapting themselves to the external world by the method of trial and error. This view is rejected by Uexküll. Lorenz, he claims, 'fails to grasp the new attitude which is the result of the discovery' (due partly to Lorenz himself) 'that the world around us, as it is given to our senses, is only the sum total of the biological release signals, and that it exists therefore only as a factor of the schemata of our biological actions' (p. 202). Uexküll asserts that Lorenz's circular argument is due to his 'failure to rid himself of the objectivist assumptions upon which the picture of the universe of classical physics rests' (p. 203).

I have no doubt that the accusation of arguing in a circle falls back on Uexküll, and that his faulty reasoning is partly due to his untenable subjectivist interpretation of modern physics. For Uexküll overlooks the fact that his whole biological analysis presupposes the possibility of a (more or less) objectivist approach. It is only such an approach which enables us to speak, for example, of an 'imitative contraption' taking over the functions of a bird's mother. It is only because we know—in our 'objective' world, which goes beyond the bird's 'subjective' world—what his real mother is and what a contraption is, that we can say that if animal *A* differentiates by its actions between its real mother and an imitative contraption of a certain kind while animal *B* does not, then *A*, to that extent, has greater powers of discrimination or differentiation and is, to the same extent, better adapted to certain possible environmental situations.

Lorenz's view (which I have shared for many years) is not only defensible, but necessary for understanding the peculiar human situation—the phenomenon, based on the argumentative use of the human language, of *critical* knowledge, as opposed to the uncritical and, as it were, accidental adaptations of the animal's 'knowledge'. And this brings me to the third mistake I have in mind—hard to understand in one who admires Kant. It is the deepest mistake of the book, and one in which both authors share. It is their complete (if not antipathetic) neglect of human reason—of man's power to grow, to transcend himself, not only by the imaginative invention of myths (whose importance is so well emphasised by Grassi) but also by the rational criticism of his own imaginative inventions. It is this power which creates objective standards of criticism, i.e. of rationality—the first of all objective standards—and the idea of objective truth. And it is the acceptance of these standards which creates the dignity of the individual man; which makes him responsible, both intellectually and morally; which enables him not only to act but to contemplate, to discriminate and to adjudicate. These standards allow him to grow in knowledge, and to realise that he is growing; and this means, apart from other things, that he can transcend the subjectivity and the activist voluntarism to which romantic and idealist speculations try to condemn him. This is the way our mind grows. If the concern of humanism is with the growth of the human mind, then the tradition of inter-subjective criticism, of interpersonal reasonableness is the tradition of humanism.

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PHILOSOPHICAL SURVEYS, V

A SURVEY OF WORK IN THE PHILOSOPHY OF HISTORY, 1946-1950

Now that there are nearly a hundred philosophical journals in regular publication throughout the world,[1] in addition to an increasing production of philosophical books and stray philosophical articles in literary or scientific periodicals,[2] anyone who set out to make periodically a scrupulously thorough survey of even one major field of philosophical work would doom himself to a fate like Tristram Shandy's. I make no claim to have conducted such a survey, and shall merely select for discussion what seem to me to be the most interesting views I have seen expressed on the six interrelated topics which I think most important in this field.

1. The Verification of Historical Theses.—R. G. Collingwood[3] held that all historiography is 'the re-enactment of past thought in the historian's own mind'. Every human action has an 'inner side' or thought content, and through his recreation of this thought a historian can learn with certainty the truth about past actions. All such imaginative reconstructions, on Collingwood's view, must be consistent with one another if they are to be true, and they must also be justified by the evidence. But he thought the proper interpretation of historical evidence to be a task which only competent historians can perform. Collingwood does not mean that the historian's thesis should depend altogether on the testimony of authorities. 'Scissors-and-paste' historiography, constructed by excerpting and combining the testimonies of different authorities, yields only what he calls 'permissive' conclusions, like the 'positive' conclusions of 'inductive science'. All such proofs can do is to justify the thinker in affirming their conclusions should he wish to do so. But scientific historiography, by testing the applicability of a theory to the records and traces of the past, produces 'compulsive' conclusions, as does mathematics or the refutation of inductive hypotheses. Nobody can affirm the premisses without being obliged to affirm the conclusion also. And Collingwood illustrates his theory by a model piece of detective fiction.

It is impossible in so short a space to do justice to the reasoned lucidity which sets off Collingwood's work from the somewhat similar views still

[1] Listed in *Bibliographische Einführungen in das Studium der Philosophie*, ed. I. M. Bochenski, vol. I, 1948. This list is not complete: it omits, for instance, *The Australasian Journal of Philosophy*.

[2] See the resumed *Repertoire Bibliographique de la Philosophie*, ed. R. Bayer, which refers to about 600 periodicals in some 15 languages.

[3] In Part V of *The Idea of History*, 1946, (a posthumously edited group of papers). The relation of this view to the rest of Collingwood's work, and in particular its inconsistency with the views he held when writing his *Essay on Philosophical Method*, are discussed by T. M. Knox in his editorial preface.

being expressed by Croce.[4] But his implicit reluctance to distinguish the phenomenology of historians' experience from the logical analysis of their theories leaves his position open to several serious objections. G. Buchdahl[5] has stressed the difficulties in holding that the historian reconstructs in his imagination the thought which lay behind past events. Collingwood, apparently, does not believe this reconstruction to be merely *like* the past thought, because that would involve a correspondence theory of historical truth and therefore imply that past thought is dead and irrecoverable. Nor, on the other hand, does he believe the historian's thought to be identical with that of the past, because by ignoring the specific psycho-physical context of either he would deprive it of an essential characteristic. Accordingly, on Buchdahl's view, the only sense in which a historian can be said to *rethink* the thought ' inside ' a past action seems to be a comparatively trivial one, analogous to that in which two different people at different times can be said to entertain the *same* proposition. Moreover, M. Ginsberg[6] has pointed out that Collingwood's view is only plausible, if at all, with reference to those branches of historiography (e.g. the study of diplomatic relations) which are often concerned with the acts of specific individuals. If applied to the history of large-scale interactions it prevents the historian from treating social institutions, e.g. the family or the wage-system, as units of study, so long as, I suppose, he is unwilling to ascribe group-minds to them. Finally, M. Mandelbaum[7] has emphasised that Collingwood's belief in the historian's re-enactment of past thought must lead to scepticism with regard to the possibility of historical science. The historian can never transcend the historical conditioning of his own ability to rethink the past, and so the certainty which he attains is merely that of self-knowledge.

Collingwood's use of the terms ' inner ' and ' outer ', as names for two categories into which all human action can be divided, illustrated his adherence to a metaphysics of the type which G. Ryle[8] has attacked as ' the dogma of the ghost in the machine '. Ryle has omitted to draw attention to the sceptical paradoxes which follow from this type of metaphysics when mind is thought of not as a quasi-Cartesian substance but as a quasi-Hegelian process and judgements are therefore held to be not volitionally free but historically conditioned. However, philosophers who wish to avoid the paradoxes of historical relativism commonly[9] insist on distinguishing be-

[4] e.g. in *Quaderni della Critica* of November, 1949, and March, 1950.

[5] *Australasian Journal of Philosophy*, xxvi, 1948, p. 94 ff.

[6] *Proceedings of the Aristotelian Society*, Supplementary Volume xxi, 1947, pp. 69 ff.

[7] *Journal of Philosophy*, March 27, 1947, p. 184 ff. Cf. Collingwood, *op. cit.*, p. 218.

[8] *The Concept of Mind*, 1949.

[9] e.g., M. Mandelbaum, *The Problem of Historical Knowledge*, 1938, p. 190. The ' tu quoque ' argument, which is also common, (e.g. N. Berdyaev, *The Meaning of History*, tr. G. Reavey, 1936, p. 10-11 : roughly, historical relativism need not be taken seriously since at the worst it is false and at the best it is itself historically relative) may give relativists a jolt, but it can hardly afford their opponents a permanent satisfaction. Even more dubious consolation is afforded the latter by the argument (e.g. F. H. Heinemann in *Philosophy*, November, 1946, p. 245 ff.) that economic, sociological, biological and psychological determinations ' counterbalance ' each other. On the other hand, I think that the distinction I mention is also necessary for the avoidance of other (' pragmatic ') paradoxes : cf. *Mind*, January, 1950, pp. 85 ff.

tween a theory itself and its discovery, utterance, publication, or popularity, in such a way that it is meaningful to ask of the former ' What is the probability of its truth ? ' and of the latter ' Where, when and why did it happen ?' but not *vice versa*. And Ryle's philosophy of mind does embrace such a distinction, for he objects to the cognitive acts of judging ' postulated by epistemologists ' as being para-mechanical dramatisations of the classified elements of achieved and expounded theories.[10]

There are, too, obvious logical objections to what another practising historian, G. J. Renier,[11] has called Collingwood's ' pathetic belief in the possibility of indisputable knowledge '. The historian's professional skill in weighing evidence appropriate to his subject-matter, and his right of access to the tribunal of his colleagues as a court of appeal from any mere layman's verdict on his inferences, are, I think, universal features of modern science as a social institution. And whatever the psychological certainty that a historian may attain, his inferences to the past from contemporary evidence have no stronger logical validity than can be afforded by the mutual corroboration of those inductive generalisations—about the reliability of certain types of record, the dispositions of certain types of human being, and so on—to which he implicitly or explicitly refers. In this respect he is as much an inductive scientist as the palaeontologist or geologist, as E. W. Strong[12] has emphasised in criticisng a theory of E. Cassirer[13] which was similar to Collingwood's. Cassirer had held that the ' life, spirit, motive and passion of the actor, the living form, must be a synthesis contributed by the constructive act of the historian—an infusion of " the colour of personal life " supplied by his intuition '. But at best a historian's intuition is a fountain of discovery, not a category of publicly testable proof. And Strong argues that it may easily mislead him about past human experience. ' The fact that individuals are culturally conditioned in diverse ways, a fact established by descriptive social sciences in our own day, argues against supposing more than a similarity of sentient organism—a physiological sameness of need for food, of sex drives, and of capacity to suffer and enjoy '.

H. S. Nordholt,[14] however, is right to draw attention to ' the resonance due to the special accessibility of a historian for the complex of ideas characterising a time '. He quotes Burckhardt on the 14th and 15th centuries as an instance. And he suggests that to such a historian, ' whom we can and must follow in his critical selecting of documents . . . , we must also give our confidence, where we perhaps cannot follow him any more, in his intuition itself '. But the procedure recommended us by Nordholt would still, of course, be inductive.

2. The Selectivity of Historical Narrative.—To insist that ' Truth in history is not radically different from scientific truth ' (Strong[15]) or that

[10] *Op. cit.*, ch. ix.
[11] *History : Its Purpose and Method*, 1950, p. 215.
[12] *Journal of Philosophy*, November 6, 1947, p. 622.
[13] In *An Essay on Man*, 1944.
[14] *Proceedings of the Tenth International Congress of Philosophy*, 1949, vol. II, p. 999.
[15] *Loc. cit.*

'History is an autonomous form of thought with its own principles and its own methods' (Collingwood[16]) is to continue the exaggerations of the nineteenth century controversy on this matter between positivists and neo-Kantians. It is more instructive to examine in detail both the various ways in which historiography resembles some other sciences and also those in which it differs from them.

M. G. White[17] has suggested that this examination can be helped by an analysis of those terms which are peculiar to what he calls 'meta-history', i.e. to discussion about historiography. He regards 'history' as such a term, and sets out to construct a linguistic model that will clarify what is, or should be, meant by 'the history of y' where 'history of' is equivalent to 'historical account of' and y is any physical object. He regards this analytical task as a basic requisite, and deliberately omits to discuss the obviously important further questions, whether human beings, institutions, etc., can have histories in the same sense as physical objects have them. He suggests that the complete history of y would be a conjunction of the form 'y has characteristic R at t_1, y has characteristic S at t_2, etc.' But the task of the historian, he thinks, is to present a briefer sequence which is representative of this conjunction, analogously to the way in which a good statistical sample is said to represent an infinite population. Hence, the historian must study the interrelations of these singular statements, and concentrate, White suggests, on selecting those which have explanatory fertility. White does not deny that some historians both admit that their selection 'arises from their own needs, purposes, prejudices and problems', and also 'feel no shame about it'. But he does deny that this mode of selection is implicit in the procedure of 'all whom we call historians'. Instead, he suggests that the historian often selects, and always should select, the singular statements which satisfy the protases of those causal laws accepted and available at the time, of which the apodoses are satisfied by other singular statements about y. And he claims that this provides an interpretation of the slogan 'History is always being rewritten' which does not draw upon the fact that moral values are always changing. Moreover, he interprets the claim that one causal factor, e.g. the economic, predominates as involving the belief that the economic historian achieves sequences which are not only more representative than those collected by any other kind of historian but also more representative than those chosen without any particular type of factor in mind.

White's analysis has the merit of illustrating how historical narrative can both be concerned with individuals, as Dilthey and many others insisted, and also involve causal theories of the same logically approximate character as those of natural science, as positivists have always maintained. But White needs to modify his analysis if he is to meet several objections that might be urged against it. Collingwood[18] has shown how adherence to a

[16] *Op. cit.*, p. 140.
[17] *Philosophic Thought in France and the U.S.A.*, ed. M. Farber, 1950, p. 705 ff.
[18] *Op. cit.*, pp. 42 ff.

substantialist metaphysics disabled historians like Livy and Tacitus. Instead of pointing out how Tiberius broke down beneath the strain of empire, for instance, Tacitus ' represents the process not as a change in the structure or conformation of a personality but as the revelation of features in it which had hitherto been hypocritically concealed '. White's view has the disadvantage of suggesting that all history should be written in terms of the changing properties of changeless objects. And even if this is a correct analysis of biographical narrative it is a cramping model to apply to the history of social institutions. Moreover, White would do better not to suggest any analogy between statistical sampling and what he thinks is the historian's procedure of selection. The laws of counting cannot be applied to properties in the same way as they can be to objects. Again, the historian is still very far from being able to appeal to an agreed body of causal laws which would provide adequate criteria for the kind of selection proposed by White. And the unattainability of this ideal forces him in practice to rely in some measure on personal preferences and interests. Hence there is more to be said than White allows in favour of urging historians ' to emancipate themselves from bondage to the unconscious, the routine and the surreptitious '[19] so as at least to make their biases clear to themselves and their readers. And this is particularly important in regard to theories about what factors are of predominant causal importance, for it is here that scientific standards of proof are least attainable and religious or political passions most engaged. The span of recorded history seems far too short to afford sufficient evidence for preferring some one particular variable as a logical focus for all other variables in all fields of sociological theory. Again, the properties of an object that are considered of historical interest are frequently those which it does not have in common with other members of some familiar class or classes to which it belongs. Biographies, for instance, are sometimes written and read for no other purpose than entertainment, and the personal peculiarities of a historical figure are often more entertaining than the characteristics which he shared with his contemporaries.[20] Finally it is pointless to oversimplify the sense in which the proposition ' History is always being rewritten ' is true. In addition to White's interpretation of the slogan and to the part played by changing scales of value, it would be a mistake to ignore in this connection the frequent discovery of new source materials, the critical re-examination of old ones, and the aid given by technological developments such as aerial surveys, chemical analysis of inks, measurement of radioactivity. etc.

3. The Logic of Historical Explanation.—Historians rarely indulge in one-track narrative on the model of White's analysis. They are more

[19] *Theory and Practice in Historical Study, Report of the Committee on Historiography*, Social Science Research Council, 1946, Proposition VIII, (one of twenty-one propositions constituting an interesting deliverance of the professional conscience of U.S. historians, p. 134 ff.). This report contains the most up-to-date bibliography on the philosophy of history that I have seen, as no relevant volume has yet appeared in the series edited by I. M. Bochenski. It contains, e.g., several items not listed by Mandelbaum, *op. cit.*

[20] e.g. R. Aldington, *The Strange Life of Charles Waterton*, 1949.

often concerned with many different series of events and the complexities of their interrelationships. But in this wider context the ordinary historian (i.e. H. A. L. Fisher, say, or G. M. Trevelyan, rather than A. J. Toynbee) still seeks to explain individual acts or closed classes of events, like Caesar's crossing the Rubicon, rather than the open classes of events which form the subject-matter of most sociological, say, or physical explanation. Hence there persist the two schools of philosophical thought which S. Hook[21] has noted, contemporary heirs of the neo-Kantians and positivists, respectively. Philosophers like Collingwood claim that historians exercise an 'understanding' of 'concrete individuals' which 'owes nothing to the scientist or to anyone else'. By apprehending the 'inside' of a historical event they recognise its intrinsic 'necessity'. And other philosophers, like C. G. Hempel,[22] insist that, despite the historian's interest in particular past events, the criteria of adequate explanation are *formally* the same for all investigable events and processes. The method of empathy, they hold, may sometimes suggest psychological hypotheses which can serve as explanatory principles if inductively valid. But it does not itself constitute an explanation, nor does its use guarantee the soundness of the historical explanation to which it leads. On this view a historian explains an event by establishing the occurrence of another event or set of events which stands to it as antecedent to consequent in accordance with a more or less acceptable causal hypothesis.

Neither of these views is, I think, wholly satisfactory. Collingwood's type of theory postulates a quasi-Spinozist *scientia intuitiva* for which some philosophers have often hankered without ever being able to convince their more empiricist colleagues of its possibility. As Buchdahl[23] has pointed out, even if the historian does gain access to an 'inner' side, or thought-content, of events (which I have already suggested to be questionable), this does not imply the existence of a system of metaphysically internal relations in his subject-matter. Moreover, historians often make a legitimate reference in their explanations to events which are in no sense human actions but may nevertheless be necessary, even though not sufficient, conditions of the latter. Criticising Collingwood in this connection, Renier[24] instances the change in the Gulf Stream's course in the early fifteenth century which brought herrings into the North Sea and so stimulated Dutch shipbuilding and overseas commerce. On the other hand, Hempel's type of account does not do justice to the extent to which men act rationally, thus both enabling the historian to offer true purposive explanations of their conduct, as W. H. Walsh[25] has emphasised, and also allowing the economist to use

[21] *Theory and Practice in Historical Study*, p. 127.

[22] *Readings in Philosophical Analysis*, ed. H. Feigl and W. Sellars, 1949, p. 459 ff. (reprinted from *The Journal of Philosophy*, vol. 39, 1943).

[23] *Loc. cit.*

[24] *Op. cit.*, p. 41 ff.

[25] *Proceedings of the Aristotelian Society*, Supplementary Volume xxi, 1947, p. 51 ff.

profitably what K. R. Popper[26] has called the ' zero method '. I suspect that the frequent occurrence of purposive explanations in historiography (e.g. ' The French troops . . . had been called in by the Papacy to give the final blow to the Hohenstaufen ')[27] may have played a considerable part in leading philosophers like Collingwood astray; for the logical form of these explanations is not identical with that of ordinary causal explanations. But they do nevertheless, I think,[28] appeal ultimately to inductively arguable hypotheses; and they do not constitute the only type of historical explanation.

Hook,[29] Renier[30] and M. R. Cohen[31] all allude to the historian's explanatory use of past unfulfilled hypotheticals, but none of them satisfactorily elucidates this usage. It is important to distinguish here (as M. R. Cohen stresses) between mere flights of imagination, like most of the contributions to J. C. Squire's famous book,[32] and attempts at critical reconstruction. Toynbee provides an example of the latter in his discussion[33] of Gibbon's thesis that, if Charles Martel had not defeated Abd-ar-Rahman, ' perhaps the interpretation of the Koran would now be taught in the schools of Oxford '. Toynbee thinks that the Arabs would have reached no further than the Loire and the Alps, because their lines of communication were already over-stretched, and suggests instead that one probable result would have been a different decision by the Synod of Whitby and therefore the celebration in modern Oxford of a Celtic Easter by monks of the Ionan order of St. Columba.

Counter-factual hypotheticals, however, are pointless (in different ways) both for those who adhere to a metaphysics of internal relations and also for any who think that all empirical laws are constructed on the model of what Russell called ' formal implication '. And they present serious analytical difficulties in any case. N. Goodman[34] has emphasised how, considered as truth-functional compounds, all counter-factuals are true, since their antecedents are false, and the problem is therefore to define the circumstances under which a given counter-factual holds while the opposing hypothetical with the contradictory consequent fails to hold; and this criterion must be set up in face of the fact that a counter-factual is inherently incapable of being subjected to any direct empirical test by the actualisation

[26] *Economica*, 1945, p. 82 : a model of social behaviour in a given set of circumstances and in accordance with a given scale of social values is constructed on the assumption of complete rationality, and actual deviations from this are then measured.

[27] H. A. L. Fisher, *History of Europe*, 1936, p. 277.

[28] *Proceedings of the Aristotelian Society*, 1950-51, p. 255 ff. Cf. E. Gellner, *Mind*, July 1951, p. 383 ff.

[29] *Op. cit.*, p. 113.

[30] *Op. cit.*, p. 184.

[31] *The Meaning of Human History*, 1947, p. 77 ff.

[32] *If it had happened otherwise. Lapses into imaginary history*, ed. J. C. Squire, 1931.

[33] *A Study of History*, 1934, vol. ii, p. 429, referring to *Decline and Fall of the Roman Empire*, ch. lii.

[34] *Journal of Philosophy*, February 27, 1947, p. 113 ff.

of its antecedent. This problem is bound up with that of the analysis of empirical laws in general, which continues to vex logicians.[35]

But Hook[36] and M. R. Cohen[37] were clearly right to suggest that a historian's use of such a sentence points to the causal importance or unimportance in the relevant context of the non-occurrence of the event described by the antecedent proposition. The historian, I think, roughly indicates this importance—i.e. he shows how necessary a condition that non-occurrence was of what actually happened—by the extent of the *qualitative* contrast he suggests between what did happen and what might otherwise have happened. And this method of historical explanation is of especial interest in view of most historians' inability (recently investigated by S. S. Nilson)[38] to achieve any quantitative measurements of the relative importance of different causal factors. In such matters no results comparable to those obtained in physics, e.g., or chemistry can be attained, except perhaps in the limited fields of economics, demography or the interpretation of electoral statistics. Yet few serious historians are now willing to relapse instead into naively following the pathological model adopted by Thucydides and seek merely for single causes (e.g. ' *the* cause of World War I ').

4. Historical Concepts.—In formulating their narratives and explanations historians make much less use of specialist concepts than do physicists, say, or palaeontologists. And the detailed analysis of whatever specialist terms do, or should, occur in the historical object-language is best left to historians themselves, as White[39] has emphasised. Renier[40] has pointed out, for instance, how the division of history into periods and aspects should be governed by pragmatic considerations on the part of the expert. But it is legitimate for a philosopher to note, as did Collingwood,[41] that the occurrence of ' dark ' and ' brilliant' ages may be an optical illusion brought about by the historian's own ignorance or sympathetic insight, respectively. Moreover, A. M. MacIver[42] has suggested how in a constantly lengthening perspective history seems from time to time to fall into different sets of periods and to hinge on different turning-points. For Marx, for instance, the introduction of power-driven machinery was a mere incident in economic development after production for profit had replaced production for use. But in a thousand years from now, MacIver supposes, the transition from feudalism to capitalism will have become almost imperceptible in history compared with the introduction of power-driven machinery.

[35] e.g. R. M. Chisholm in *Mind*, October, 1946, p. 289 ff., F. L. Will in *Mind*, July 1947, p. 236 ff., H. Reichenbach, *Elements of Symbolic Logic*, 1948, ch. viii, and D. F. Pears, *Analysis*, January 1950, p. 49 ff. all discuss these problems in connection with one another.

[36] *The Hero in History*, 1945, p. 88.

[37] *Loc. cit.*

[38] *Histoire et Sciences Politiques*, 1950, pt. II.

[39] *Op. cit.*, p. 70 f.

[40] *Op. cit.*, p. 78.

[41] *Op. cit.*, p. 328.

[42] *Proceedings of the Aristotelian Society*, Supplementary Volume xxi, 1947, p. 33 ff.

Of philosophical interest, too, is the extent to which some historical concepts seem to have evaluative connotations. W. H. Coates,[43] for instance, has attempted a definition of ' progress ' which would be immune from the criticism that it is relative to the historian's own standards of value. He suggests that progress should be thought of as consisting in increased social accommodation, i.e. increased sustenance for the liberties and institutions on which he thinks the measurable increase of material power depends. But Coates's theory is merely another illustration for the generalised analytic definition offered by Hook,[44] *viz.* ' Progress is a development favourably evaluated from the standpoint of a human interest or ideal '. A. Huxley[45] has afforded a further illustration for this by equating a ' true ' progress with the creation of conditions where the abuse of power is impossible. And, of course, the question whether or not historians *should* evaluate the events which they narrate and explain is itself a problem of social values.

Historians, like other scientists, have often taken over terms from other universes of discourse in order to set up explanatory models. ' Social pyramid ', ' balance of power ', ' political organism ', ' military clockwork ', etc., have all been useful in this way. It is now being suggested that social scientists—as well as physiologists—may profit from recent developments in the theory of communication networks (i.e. servomechanisms, switchboards, and calculating machinery). K. W. Deutsch[46] has pointed out that the advantage of this theory for social scientists lies in its ability to deal with the supposedly ' immaterial ' aspects of *order* and *novelty* as realities which are operationally accessible in principle to quantitative treatment, since information—i.e. patterns abstractable from messages—is measurable and yet not subject to laws of conservation like energy or matter. Moreover, societies have in common with minds a basic feature which communication engineers call a ' feedback '. Deutsch defines this as ' a communication network which produces action in response to an input of information and includes the results of its own action in the new information by which it modifies its subsequent behaviour '. And it is plausible, too, to compare the evaluative preferences of men and societies with the operating rules of switchboards and calculating machines. Accordingly, if ' any network whose operating rules . . . can be modified by feedback processes is subject to internal conflict between its established preferences and the impact of new information ', this model has an obvious relevance to social controversies like those to which the publications of Copernicus, say, or Darwin gave rise. Again, if secondary messages are messages about changes in the state of

[43] *Journal of Philosophy*, January 29, 1948, p. 67 ff.

[44] *Theory and Practice in Historical Study*, p. 117.

[45] *Neue Schweizer Rundschau*, November, 1948, p. 399 ff.

[46] *Synthese*, vol. VII, 1948-1949, p. 506 ff. Cybernetic theory is of philosophical interest in several other ways. E.g. it is now generally recognised that the most practicable electronic computing machines are those constructed to operate on a binary scale. This fact might, I think, be relevant to the problem whether, and in what senses, a two-valued logic should be said to be ' fundamental ' in human thought.

parts of the system, ' consciousness ' may be fruitfully defined as a collection of internal feedbacks of secondary messages. And, since ' a small change in a feedback circuit can bring about a large change in its overall performance ', the model is obviously applicable to the causal importance of, say, Marx's theoretical publications so far as these are acts of social consciousness. Although there are several other clear applications of this model to social phenomena, N. Wiener[47] is sceptical about the extent to which it can be used for accurate measurement, generalisation and prediction in social science, because the relevant statistical runs obtainable are generally so short. However, as a loose explanatory framework for historians it may have advantages in some contexts, though I have not yet noticed any use of it in professional historiography.

5. The Generalised Study of History.—As a result of investigating the history and semantics of the term ' revolution ', A. Hatto[48] has concluded that ' unless one takes one's terminology very broadly . . . history does not repeat itself '. ' One's working conception of revolution must modify one's making or breaking of revolutions ', and *vice versa*, so that it is not surprising, on his view, to find a constant redefinition of the term occurring. But although Hatto's study of ' revolution ' and revolutions might serve to illustrate a philosophical theory about the difficulty or illegitimacy of historical generalisation, it can hardly constitute such a theory itself. Other terms may have a general application if ' revolution ' has not. And in any case every situation—even in planetary revolution—has what Hatto calls ' unique detail ' : the scientist generalises by abstracting common characteristics. On the other hand, Popper[49] has shown that no predicting machine, however completely informed, is capable of giving a rational answer to all questions which may be put to it about its own future, although it can always explain its past in any desired detail. Nor can any member of a society of predicting machines (i.e. a group of causally interacting predictors) answer all questions about the future of any co-member, although, of course, it can answer some. Popper's most convincing argument for this thesis rests on exploring the analogy between any one run of a calculating machine, on the one hand, and a formalised deductive system, on the other, and on elaborating the applicability to the former of an analogue of Gödel's theorem (i.e., roughly, of the theory that for every formalised deductive system S_1 of true statements, which is sufficiently powerful to embrace the laws of arithmetic, there exist true mathematical formulae which can be expressed in the terms used by S_1 but are neither demonstrable nor refutable in S_1). It is the existence of knowledge in the

[47] *Cybernetics*, 1948, ad fin. Cf. D. G. Macrae in *British Journal of Sociology*, June, 1951, p. 135 ff., and J. O. Wisdom in *British Journal for the Philosophy of Science*, May, 1951, p. 1 ff.

[48] *Mind*, October, 1949, p. 495 ff.

[49] *British Journal for the Philosophy of Science*, August and November, 1950. Popper's argument seems quite new to the methodology of social science : cf., e.g., G. A. Lundberg, *Foundations of Sociology*, 1939, or F. Kaufmann, *Methodology of Social Science*, 1944.

physical world which creates this kind of indeterminism, and Popper points out that his conclusions apply to men so far as they are predictors.

It is important here to distinguish, as does Mandelbaum,[50] ' between attempts to find invariant relations within history and attempts to show that there is an invariant tendency of history ', i.e. between sociological laws and ' laws of history ', respectively. A sociological law (e.g. ' Revolutions are always followed by reactions ') merely ' permits us to calculate on the basis of a knowledge of initial conditions, and on the assumption of the non-interference of other events, what will happen next ; it does not sum up and define the direction in which change tends to proceed ', as does a system of laws of history like Spengler's. But it is only the latter type of law which could be useful for long-range predictions in history because, when sociological laws seem applicable, ' events which were not part of the original initial conditions always impinge to alter the conditions at a later point in time '. And Mandelbaum points out that, like the second law of thermodynamics, laws of history are only possible on the assumption that we are dealing with self-transformations within closed systems. But, he adds, although there may be certain periods in the history of a society when it is extremely resistant to influence from without, the conclusions of historiography refute any suggestion, such as that made by Toynbee's definition of a civilisation as ' an intelligible field of study ', that all societies at a certain level can always be regarded as self-contained without giving rise to error.

The appearance of an excellent abridgement[51] of Toynbee's *A Study of History* has stimulated a good deal of discussion on this topic. Critics are unanimous in praise of Toynbee's learning and the suggestiveness of his treatment, but find much at fault with his logic. J. W. Blyth[52] points out how Toynbee invalidly uses evidence afforded by his examination of nine ' arrested ' or ' abortive ' civilisations to support generalisations which he applies only to the other twenty-one mature civilisations, though even thirty members of a species are a poor basis for inductive generalisation about it. And he rightly accuses of tautology the ' empirical law ' of ' Challenge and Response ' which Toynbee[53] alleges to explain the genesis of civilisations. On Toynbee's view, the challenge which generates a civilisation may come from the hardness or newness of an environment or from the stimulus of ' blows ', ' pressures ' or ' penalisations ' ; and civilisation-responses occur where the challenge is neither too weak nor too strong. But unfortunately Toynbee[54] defines the severity of a challenge in terms of the occurrence

[50] *Journal of Philosophy*, July 1, 1948, p. 365 ff. A similar distinction was made, with different conclusions, by J. S. Mill, *Logic*, VI. x.1, as Popper has pointed out in his classical treatment of this subject, *The Poverty of Historicism*, in *Economica*, May and August, 1944, and May, 1945 ; cf. the same author's *The Open Society and Its Enemies*, 1945, vol. ii, p. 83. I have seen no attempt in 1946—50 to refute Popper's arguments concerning the error of what he calls ' historicism ' (i.e. the claim to understand the laws of historical development).

[51] By D. C. Somervell, 1947.

[52] *Philosophical Review*, July, 1949, p. 360 ff.

[53] *Study of History*, vol. i, p. 299.

[54] *Ib.*, vol. ii, p. 291.

or non-occurence of the civilisation-response which it is supposed to explain. P. Geyl,[55] too, holds that Toynbee selects the instances which will support his theses, or presents them in a way that suits him, whereas contrary instances could always be quoted ; and even those circumstances he does mention could be explained or described in a different way so as to disagree no less completely with his theses. It is very odd, for instance, to regard England as living in a period of creative isolation from 1558 to 1914. And modern technological developments provide plenty of ground for doubting whether our own ' civilisation ' is as comparable a member of the species as Toynbee seems to suppose.[56]

Geyl also emphasises that the height of a civilisation cannot be measured without reference to some standards of value. And G. A. Birks[57] is right to object that if we call a historical process ' growth ' or ' decay ' we are imposing some extrinsic value on what is from the purely scientific point of view merely change ; for Toynbee does claim to be employing ' empirical method '. On the other hand, M. B. Foster[58] thinks that Toynbee has not made sufficient use of Christian values and doctrine in his interpretation of history. Foster holds that a society or church which is based on a monotheistic belief cannot be explained as a product of merely historical causes if we grant that belief to be true, for the belief brings it into relation with a ' supernatural reality '. He thinks that the model of a drama may provide a more adequate method of understanding history than does Toynbee's scheme. And he suggests that it is only absurd, as Toynbee holds it is, to treat history as a whole as having a turning-point (e.g. the events of the *New Testament*), if you start with the opposite assumption, namely that of the natural historian, which seems to imply the ' homogeneity of time ' and its ' indifference to the phenomena occurring in it '.

There is no shortage, too, of philosophers of history who detect a ' crisis ' in contemporary culture[59]—indeed, I know of no period in recorded European history when there has ever been a shortage of these—and who explain it by the prevalence of irreligion—a fact that has always been a commonplace of religious preaching. And Toynbee himself thinks that, even if our own civilisation is decaying, its doom might be averted by prayer. But, whether or not we agree with Popper[60] to call the dogma that God reveals himself in history ' not Christianity, but pure idolatry and superstition ', it is clear

[55] *Journal of the History of Ideas*, January, 1948, pp. 93 ff. ; cf. his discussion with Toynbee on the B.B.C. Third Programme, published as *Can we know the pattern of the past?*, 1948. Toynbee makes no answer in this discussion to any of the criticisms I mention, but disclaims any intention in his book to prophesy, and modestly remarks : ' I should be well content if it turned out that I had laid bare one genuine facet of history, and even then I should measure my success by the speed with which my own work in my own line was put out of date by further work by other people in the same field '.

[56] Anyone who fails to doubt this would have been well advised to visit the British Museum and the South Bank Exhibition on the same day.

[57] *Philosophy*, October, 1950, p. 336 ff.

[58] *Philosophy*, January, 1948, p. 72 ff.

[59] e.g. M. F. Sciacca, *Etudes Philosophiques*, April-June, 1948, p. 204 ff.

[60] *The Open Society and Its Enemies*, vol. ii, p. 258.

that the intrusion of religious doctrine is incompatible with Toynbee's empiricist and scientific ideal. Moreover, religious categories of historical interpretation are notoriously difficult to apply. When Cromwell wrote to the Covenanters after defeating them at Dunbar, for instance, ' he took care to retort on them their favourite argument of providence; and asked them, Whether the Lord had not declared against them? But the ministers thought, that the same events which to their enemies were judgements, to them were trials; and they replied, that the Lord had only hid his face, for a time, from Jacob '.[61]

6. The Relation of the Study of History to Other Forms of Human Experience.—In effect, Foster proposes to defy Vico and reverse the modern secularisation of historiography. H. Butterfield, too, who once wrote that ' the last word of the historian . . . is a piece of detailed research ' and that ' above all it is not the role of the historian to come to what might be called judgements of value ',[62] is now convinced that a historian has not properly understood his subject until his understanding of it is continuous with his inner experience of God.[63] Now, the logical corollary of such attitudes would be to seek to reverse the parallel secularisation of physics and biology, since, if history is to have a supernatural ' turning-point ', there is no reason why natural phenomena should not have fore-ordained ' purposes ' in an anthropocentric cosmology. Accordingly, the standards and outlook of modern science are themselves in question here, and therefore they do not afford sufficient criteria for the appraisal of a philosophical theory about historiography like Foster's (except so far as it accuses a self-confessed empiricist, e.g. Toynbee, of not doing what he does not set out to do). They must be reinforced, or replaced, in this context by more ultimate values, whether moral, political or religious.

The hard-won professional autonomy of science has other opponents, too, besides those who wish to reassert the sovereignty of religion in intellectual affairs. There are, for instance, the irrationalists like E. Dardel,[64] who claims that ' history demands a presence—not the ashamed and retractile presence of an intellectual who makes history a pretext for not living, but the total presence of one who finds and understands himself in his pleasure '. In Dardel's opinion ' exactness and objectivity are rather the crutches of infirmity than the weapons of a superior intellect ', the demand for causal explanations represents merely ' a lack of security in the Western spirit ', and Carlyle rather than Thucydides affords the historian his model. And there are also the dialectical materialists like M. Cornforth[65] who continue to insist that the whole development of science must be planned in the interest of social welfare, and that this can only be accomplished by

[61] D. Hume, *History of England*, ch. lx.

[62] *The Whig Interpretation of History*, 1931, p. 73.

[63] *Christianity and History*, 1949, p. 107.

[64] *L'histoire, science du concret*, 1946, reviewed by A. Koyré in *Europe*, September 1, 1946, p. 108 ff.

[65] *Philosophy for the Future*, ed. R. W. Sellars, V. J. McGill, M. Farber, 1949, p. 519.

a social reorganisation in accordance with the Marxist prescription (or its current interpretation).

Although there are, of course, many philosophers (e.g. the various schools which are sometimes collectively labelled ' logical empiricist ') who see no incompatibility between respect for the autonomy of science, on the one hand, and theism, hedonism, or socialism, on the other, it is noteworthy that history presents a peculiar challenge to the scientific outlook and an especial temptation to betray professional standards. ' Meaning is a cultural necessity ', holds B. M. Pineda.[66] ' It lights the pains and it avoids the collective suicide (*sic*). If life and history lack meaning, for what do we live ? ' And Toynbee[67] has urged : ' This job of making sense of history is one of the crying needs of our day—I beg of you to believe me '. Yet (both for the reasons which I have reviewed in (5) above, and also for others, such as the difficulty of sociological experiment) the present-day student of history cannot devise a systematic theory of his field which would be comparable in explanatory scope and predictive fertility to the achievements of natural scientists in astrophysical cosmology, say, or in the biology of evolution. Accordingly, a historian may be faced with a conflict between a popular demand, which he may think it his moral duty to satisfy, and the standards of professional science which forbid him to do so. But as a scientist at least, his professional duty is to refrain from reflecting his own moods or values on the cosmos, as Russell says,[68] and to point out, as does Geyl,[69] that, although ' there is wisdom to be gained from the study of the past ', there are ' no definite lessons for the actual problems of the present ' except the knowledge of some short-term sociological probabilities. He should tell the preacher or politician to seek elsewhere for his weapons of propaganda. And he should encourage the citizen to find other means of personal consolation rather than ask ' deliverance from the obligations of action ', as R. Aron[70] puts it.

Finally, it is in relation to the historian's social predicament that the question ' Is historiography an art or a science ? ' is best considered. Several reasons are advanced for saying it is both. A. L. Rowse[71] thinks that the artistically creative factors in historiography are imaginative insight and literary style, although the historian's interpretation of evidence should still be subject to the rules of scientific method. Renier[72] holds that historiography, ' like science, seeks knowledge for the sake of action ', but that the merit of a historical enquiry lies more in the way that it is written up than does the merit of a scientific research. He quotes, too, a dictum of

[66] *Proceedings of the Tenth International Congress of Philosophy*, 1949, vol. ii, p. 984 ff.

[67] *Can we know the pattern of the past ?*, p. 29.

[68] *The Philosophy of Bertrand Russell*, ed. P. Schilpp, 1944, p. 734.

[69] *Op. cit.*, p. 48.

[70] *Philosophic Thought in France and the U.S.A.*, p. 301 ff.

[71] *The Use of History*, 1946, p. 113.

[72] *Op. cit.*, p. 245 ff.

the impresario Sergei Diaghileff—' Omission is the essence of art '—to support his contention that the selectivity of historical narrative is governed by artistic as well as intellectual considerations. Moreover, historiography is commonly valued (e.g. by Rowse and Russell) quite as much for its intrinsic interest as for what it can establish in the way of causal laws, and has ' perhaps its greatest value in enlarging the world of our imagination, making us, in thought and feeling, citizens of a larger universe than that of our daily preoccupations '.[73] And it is easy to discern a spectrum ranging from pure literary fiction, at one extreme, through biographical novels and popular biographies, to ' full-length studies ' and papers in learned journals, at the other—a spectrum reflected in Croce's shift of opinion[74] about the extent to which history is an art.

But each of these factors plays some part in the work of natural scientists or in the attitude of the public towards them. There is ' popular ' science, too, and many find their appreciation of life expanded by an interest in the discoveries of crystallography, say, or astronomy. Few mathematicians would deny that aesthetic criteria are sometimes applicable in theoretical physics. And not all scientists think that literary considerations are irrelevant to the presentation of a scientific report. Indeed, I suspect that the question ' Is historiography an art or a science ? ' resembles in this respect a question like ' Is a kitchen a dining-room or a bakery ? ' Some people both dine and bake in their kitchens, some do one or the other but not both, some do neither, and some even dine in their bakeries. Moreover, the semantics of these terms varies, and so do the relevant social conventions. It is perhaps more to the point, therefore, to ask whether historians should be encouraged to regard themselves more as scientists than as artists, or *vice versa*, and in what senses and respects. And this question will presumably be answered differently, with little room for compromise, by fundamentalists, irrationalists, dialectical materialists, logical empiricists and any other philosophers of history, respectively.

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[73]Russell, *op. cit.*, p. 741.
[74]Cf. Collingwood, *op. cit.*, p. 190 ff.

BOOK REVIEWS

Spinoza. By STUART HAMPSHIRE. (Pelican Books. 1951. Pp. 237. Price 2s 6d).

In these days of rising prices the new Pelican Philosophy Series is sure of a warm welcome. We are promised books on individual philosophers, ancient, mediaeval, and modern, as well as general introductions to the different branches of philosophy; and volumes on Peirce, Butler, J. S. Mill, and Locke are already in preparation. The Editorial Foreword assures us that 'the series is not intended to reflect the standpoint or advance the views of any one philosophical school': even so, it is somewhat surprising that the first volume of a series edited by Professor Ayer is devoted to a master metaphysician. Still more surprising is Professor Ayer's remark that 'the questions with which he (Spinoza) deals are as difficult as they are important'. It may be that this statement, like many of Spinoza's, is not to be taken too literally; but it does seem a far cry from the doctrines of *Language, Truth and Logic*.

However, it is not my business here to speculate on the possibility that Professor Ayer has been converted, but to consider Mr. Hampshire's performance as an interpreter of Spinoza. Mr. Hampshire, of course, is not a Spinozist after the manner of Professor Hallett, or even after the manner of the late Professor Joachim; on the contrary, he seems fairly sure that many of Spinoza's questions are to be dealt with by the methods of therapeutic positivism, and one feels all the time that he has the verifiability principle up his sleeve. But in spite of the fact that he has little sympathy with Spinoza's way of doing philosophy, he does give his author a very fair hearing, is quick to give credit where he thinks credit is due, and is content to reserve most of his criticism for the final chapter.

First let me deal with Mr. Hampshire's treatment of what he rightly calls 'the central crux of Spinoza's philosophy—namely, the paradoxes of the complete determinism which is involved'. A. E. Taylor was convinced that Spinoza's metaphysics left no room for 'any genuinely ethical doctrine at all'; and W. G. de Burgh believed that the main difficulty in Spinoza's system was to see 'how man can ever rise . . . . from a lower plane of knowledge to a higher'. Of course, de Burgh's statement of the problem involves a misconception, since Spinoza's view is that each man is on all three planes (*Ethics*, Part II, Propp. XXXIX and XLVII). Mr. Hampshire sees this (p. 112), but he is still very puzzled. Does Spinoza think that 'we can as individuals freely decide to improve ourselves'? *Ep.* XXXVII suggests that self-improvement is a matter of deliberate choice, 'a matter of making the necessary effort. But if we turn back to the *Ethics* to find what is required in order to impose on ourselves a plan of assiduous meditation, we find that the possession of scientific knowledge is an indispensable condition for making such a choice; and so we seem to go round in a circle which cannot be broken into at any point by a mere act of will; for "act of will" is a phrase which can be given no ordinary meaning in Spinoza's terminology' (pp. 113-4). In other words we cannot choose to meditate assiduously unless we possess scientific knowledge; but we cannot gain scientific knowledge unless we meditate assiduously. This argument has a familiar ring; it is like saying that we cannot work iron unless we possess a hammer, and that we cannot acquire a hammer unless we can work iron. But Spinoza will have none of this; the fact is, he says, that 'the intellect by its native strength makes for itself intellectual instruments, whereby it acquires strength for performing other intellectual operations, and from these operations gets again fresh instruments, or the power of pushing its investigations further, and thus it gradually proceeds till it reaches the summit of wisdom' (*Tractatus de Intellectus Emendatione*, § 31). Mr. Hampshire has admitted that each human mind has among its ideas 'those common notions on which all science and organized knowledge are built'; but he does little justice to the mind's 'native strength', to its inherent effort to understand. For Spinoza the intellect needs no prior and external decision of the will to set it in motion.

Mr. Hampshire's failure to see that the individual is, in Professor Hallett's phrase, 'by nature self-enlightening' arises from his failure to insist upon important metaphysical distinctions. When Mr. Hampshire says on p. 38 that 'substance is to be identified with Nature conceived as a whole or as the totality of things', or on p. 44 that the proposition 'God is the immanent cause of all things' is equivalent to 'everything must be explained as belonging to the single and all-inclusive system which is Nature', he seems to make no distinction between substance on the one hand and the *facies totius universi* or the *infinita idea Dei* on the other. Yet Spinoza makes a distinction here; and he thought it so important that after he had shown Oldenburg in

Ep. XXXII how finite bodies were modified by their mutual interaction so as to form the *facies*, he took care to add : ' But in respect of substance I conceive that each part has a closer union with its whole '. This implies that it is one thing to say that a finite body is a part of Nature, and another to say that it is a mode of substance ; in the first case we are saying that it is subject to the transitive, temporal, existence causality of the other parts, in the second we are saying that it is the effect of the immanent, eternal, essence causality of substance, i.e. that it is a particular manifestation of God's power, or rather of the power that is God (*Ethics*, Part I, Prop. XXXIV). For the distinction between the two *ordines causarum* see *Ethics*, Part I, Prop. VIII Schol. 2, Prop. XI Dem. 2, Prop. XVII Schol., and Prop. XXXIII Schol. 1 ; cp. also *Ethics*, Part V, Prop. XXIX Schol. Mr. Hampshire never really gets it clear. At one time he tells us that ' cause ' in Spinoza means ' logical ground ' (pp. 35 and 125) ; at another he speaks of an ' external ' cause (p. 48). It never seems to strike him that these are very different kinds of causes, and the result is that he uses phrases like ' the order of causes ' (p. 108) and ' the infinite chain of causes ' (p. 151) without the least suspicion that they may be ambiguous. He can even say (p. 166) that a man's ' real happiness (*beatitudo*) consists in . . . . reflecting within his own mind the whole common order of things ', in spite of Spinoza's clear distinction between the *communis ordo Naturae* and the *ordo intellectualis* (*Ethics*, Part II, Prop. XVIII Schol. and Prop. XXIX Schol.).

The consequence of all this is that Mr. Hampshire tends to consider men as nothing more than parts of nature caught in a web of transitive temporal causality ; and so he naturally finds it difficult to understand how individuals can become free. He thus remains in doubt whether the *Ethics* really provides a way of salvation or merely a means of distinguishing between servitude and a freedom which we can never attain (p. 115). ' We cannot be other than what we are, and our whole duty and wisdom is to understand fully our own position in Nature and the causes of our imperfections, and having understood, to acquiesce ; man's greatest happiness and peace of mind (*acquiescentia animi*) comes only from this full philosophical understanding of himself ' (p. 121). If this means that understanding our passions makes no difference to them, it is not Spinoza's doctrine : Spinoza claimed to have shown in the *Ethics* that ' reason can do a great deal to check and moderate the passions ' (*Tractatus Politicus* I, 5).

Mr. Hampshire is sometimes willing to consider this claim. On p. 141, for example, he suggests that freedom may be achieved ' by a method in some respects not unlike the methods of modern psychology ' ; but since his account of Spinoza's method is not very clear, it may be worth while to illustrate it by an example. Suppose a man has an uncontrollable fear of cats, and suppose he traces this fear to the fact that he was scared by a cat jumping into his bed when he was a boy. This is a case of the transference of an affect from one idea to other ideas with which the first is associated (cp. *Ethics*, Part III, Propp. XVI and XLVI). The man's fear of cats, then, depends on this associative linkage ; if this linkage can be weakened, his fear of cats will be diminished. Now it can be weakened by an *emendatio intellectus*, by the simple process of comparing it with the logical linkage of adequate ideas, the intellectual order, and so realising its inadequacy. This is one way in which Spinoza thinks that reason can control the passions ; and the example also shows the connection between his attack on the universals of *imaginatio* and his ethical theory.

My main criticism, then, is that Mr. Hampshire fails to do justice to the innate power of the mind. The only thing he says about it (p. 141) is that it is ' a reflexion ' of the man's physical energy—a phrase which is likely to bolster up the legend that Spinoza was a materialist. Naturally Mr. Hampshire's failure here leaves traces on his discussion of the epistemology. Spinoza defines ' idea ' as ' a conception of the mind which the mind forms because it is a thinking thing ' (*Ethics*, Part II, Def. III). By ' images ' on the other hand, he means ' affections of the body, the ideas of which represent to us external bodies as if they were present ' (*Ethics*, Part II, Prop. XVII Schol.). This means that images are physical for Spinoza (cp. *Ethics*, Part II, Prop. XLVIII Schol.); yet Mr. Hampshire can equate ideas with images and even speak of ' entertaining images ' as coming under the attribute of thought (pp. 92-3). But thought, even at its lowest level, *imaginatio*, involves judgment, an activity of the mind : to perceive (or form an idea of) a winged horse is to affirm of the horse that it has wings (*Ethics*, Part II, Prop. XLIX Schol.). It is interesting to note that even when Mr. Hampshire realises this he falls into the other error against which Spinoza was so careful to warn his readers in that scholium ; Spinoza, he says, ' makes no distinction between " having an idea " and " asserting " or " making a statement " ' (p. 86). But this is to confuse the judgment with the words in which it is expressed. Mr. Hampshire, it seems, needs constant reminders of this distinction ; c.f. Aristotelian Society, Supplementary Vol. xxv, p. 180.

Now for some minor points.

1. To call the Everyman translation of the *Ethics* and the *Treatise on the Correction of the Understanding* ' adequate ' (p. 9) is extravagant praise ; and if Mr. Hampshire will compare his rendering of the first sentence of the latter treatise (p. 13) with the

rendering in the Everyman translation, he will see that he has tacitly corrected one of the many howlers which disfigure that work.

2. The statement (p. 9) that the *Principles of Descartes' Philosophy* with its appendix, the *Metaphysical Thoughts*, is not available in an English translation is false. Mr. Hampshire could have learned this by consulting Professor Roth's *Spinoza* (p. 24).

3. Finally, on p. 234 Mr. Hampshire speaks of a '*Short Treatise on the Correction of the Understanding*'. This is a conflation of two titles—'*A Short Treatise on God, Man, and his Well-being*' and '*A Treatise on the Correction of the Understanding*'—which Mr. Hampshire distinguishes correctly in his Preface.

To sum up. The radical nature of some of my criticisms must not be allowed to obscure the real merits of this book. To give an account of Spinoza's life and philosophical background; to deal with his metaphysics, his epistemology, his moral and political philosophy; to throw in a chapter on the nature of metaphysics in general; and to do all this in the space of 237 small pages without ever becoming dull or superficial, seems to me a considerable achievement. Mr. Hampshire is to be congratulated on giving the new series a good start.

A. G. WERNHAM

The Works of George Berkeley, Bishop of Cloyne, Volume IV. Edited by A. A. LUCE. (Edinburgh: Nelson. 1951. Pp. viii + 264. Price 30s).

This volume contains the essay *De Motu*, all the writings on mathematics and those on petrifications, earthquakes, Vesuvius and the cave of Dunmore. The editing follows the pattern of previous volumes; and the accuracy of reprinting from the original editions is maintained (except for a few f's instead of s's), while the more spacious lay-out of the mathematical writings makes them much easier to read. But why has the useful table of contents been omitted from *The Analyst*? And—to be more niggling—can we not have Berkeley's texts printed under his titles? They were always clues to the purposes of the works, like Matt. VII, 5 for *The Analyst*. (Better still if the publishers gave us, at the price, typographic reproductions of title pages!).

Apart from a recently discovered version of the *Cave of Dunmore*, the only novelty is a translation, by the Editor, of *De Motu*. This is occasionally awkward reading (e.g., §§ 36 and 40); and one phrase is wrongly translated, another at least misleadingly; both unfortunately affect the substance. In § 42 Berkeley confines the natural philosopher to mechanical principles, and as for any doctrine on other matters, *id superiori alicui scientiae acceptum referat*: but this idiom does *not* mean 'let him refer it for acceptance to some superior science'. § 68: *ducit enim in minutias metaphysicas, & prorsus nominales de identitate*—'metaphysical and even verbal minutiae about identity' misrepresents the force of *prorsus*. But otherwise the translation seems reliable and vigorous.

A. C. LLOYD

In Defence of Reason. By H. J. PATON. (London: Hutchinson's University Library, Senior Series. 1951. Pp. x + 288. Price 16s).

In this volume Professor Paton has collected together fourteen essays and lectures, written over the period 1914 to 1947. Twelve of them have been published in some form before; the other two are here printed for the first time. Of the previously published writings six are on Kant, one is on Plato, five are on ethics, and the other two are on 'Self-Identity' and 'Existentialism as an Attitude to Life'. Volumes of this kind are often criticised as unnecessary on the ground that the articles are already in print, or as unsatisfactory on the ground that they lack a unifying principle. These criticisms are sometimes justified: but they would be particularly inappropriate if applied to Professor Paton's book. It is useful to have in this collected form his articles on Kant to set beside his volumes *Kant's Metaphysic of Experience*, instead of having to search the index of *Mind* and the not yet existent index of the Aristotelian Society Proceedings. Moreover, there is always some unity of outlook in the writings of a philosopher over the years and this is particularly manifest here in the ethical essays. We should be grateful, therefore, for this volume.

The book divides almost evenly into Kantian essays and ethical essays. Even if I were competent to review the Kantian essays I should think them better treated by a reviewer in connection with Professor Paton's extended study of Kant in his two works of Kantian scholarship, *Kant's Metaphysics of Experience* and *The Categorical Imperative*. I shall therefore confine my comments to the other contributions to the volume.

In his inaugural lecture ' Fashion and Philosophy ' (1937) Professor Paton took his stand against the tendency of analysis to dominate philosophy which, when the lecture was given, had by no means reached the crescendo of to-day. ' I hold that the business of philosophy is to be synoptic ' (p. 13) he declares, and he concludes the lecture by expressing the hope that philosophy ' may be led once more to become what it has always been in the persons of its greatest exponents, certainly a criticism, and perhaps even a way, of life ' (p. 28). In the course of the lecture he affirms his faith in the existence of synthetic *a priori* judgements in the field of morality, and defends objectivity in ethics by saying : ' If we are going to argue at all, we must suppose a power of reason common to mankind, and it is surely arbitrary to imagine that this common reason is not manifested in our moral judgements ' (p. 26). This theme was pursued later in his lecture to the British Academy ' Can Reason Be Practical ? ' (1943). This was an attempt, on Kantian lines, to defend the notion of the good will as an absolute and unconditioned good implied in moral experience and grasped by reason. He follows Kant closely in holding that there must be a principle which can be sought and obeyed by reason independent of desire, that this can only be the principle of law as such, and that law as such is universal and impartial between all rational agents. The same lecture also contains some important criticisms of the ethical views associated with Professor Moore and Sir David Ross. (The criticisms of Professor Moore had already been set out in greater detail in ' The Alleged Independence of Goodness ' (1942).) The objectivity of goodness is, for Professor Paton, consistent with its being complex (and hence definable) and also with its being related to will. ' The Emotive Theory of Ethics ' (1947) suffers somewhat in that it was written as the second paper in a symposium and is very largely in the nature of a reply to the first paper by Mr. Robinson, which the reader of the volume would naturally like to have before him. It makes clearly and convincingly two points : (1) that the emotive account of ethical judgement must founder unless it can distinguish the emotion involved from mere ' liking ', an objection happily summed up in the statement that ' " I happen to like morally " is a contradiction in terms ' (p. 207), and (2) that it is not really feeling but will that is important in moral judgment. With almost all Professor Paton's criticisms of ethical theories I find myself in general agreement. On the more constructive aspects I heartily agree with the central role assigned to will in ethics, and with the contention that in acting morally we are acting rationally. Where I cannot altogether go with Professor Paton is in his acceptance of moral judgements as synthetic *a priori* judgements. This seems to me to leave obscure the precise character of the reason involved in the making of moral decisions.

WINSTON H. F. BARNES

A Solovyov Anthology. By S. L. FRANK. Translated from the Russian by NATALIE DUDDINGTON. (London : S.C.M. Press. 1950. Pp. 256. Price 18s).

In this anthology Professor Frank gives a clear presentation of Solovyov's Christian humanism, which he regards as the greatest contribution of the Russian religious spirit to the shaping of human destiny. His introduction elucidates the intuition of ' all-unity ', the source of the whole teaching of Solovyov, described as an ' ecumenical peace-maker ' whose metaphysics, theory of knowledge, ecclesiastical policy, aesthetics, conception of love, ethics, and political philosophy consist ultimately in affirming this universal harmony.

According to Solovyov, the ideal essence of truth, beauty, and goodness is the same—' being that has value ', while the criterion of worthy being is the greatest possible independence of parts with the greatest possible unity of the whole. The eternal truth of positive universal unity is not a puzzle, but appears to reason as something normal, logically and ideally necessary as the absolute norm. It is the unintelligible reality of the actual world that is the puzzle. Beauty is the sensuous embodiment of the one, absolutely objective, all-inclusive idea in the material despite its obstinate resistance (the power of persisting evil deriving from chaos). Only as beauty can the material enter the moral order, and it is the purpose of art to continue the spiritualisation of the material begun in nature. Here Solovyov goes beyond the Hegelian view. Complete interpenetration of the two elements is held to imply that the material appearance must become as immortal as the idea which is its spiritual content. The ' central idea ' of Christianity is the development of the divine-human organism in the world, in which the divine-human bond must find expression in the persistent and many-sided activity of mankind towards realising the complete correspondence of all external reality to the inner principle of true life.

The implications of ' all-unity ' in relation to actualities are clarified by typical Hegelian antitheses. Man in his essence is eternal and all-embracing. As an empirical fact he is transient and temporary. The truth is latent in him, and, as the power which

frees him from false self-affirmation, is called love. The principle of cosmic disunity is egoism, which in politics as elsewhere is the denial of true humanity, self-negation and destruction. Impenetrability, the mutual exclusion of one another's being, is the root of false existence. True union presupposes true difference between its terms, in virtue of which they mutually affirm one another. The Graeco-Roman world, the Mediaeval West, Catholicism, German Protestantism amd the Orthodox East all missed the 'central idea' in one way or another. Such unity as they sought was consequently self-contradictory, as between mutually alien bodies. True unity exists already in the universal organisation of true life, the task being to make its visible manifesttaion conform to its true nature.

If there is one point at which Solovyov appears to have departed seriously from Hegelian principles, it is in the very notion of a theocratic world which he so long advocated as essential to his whole view. Its *a priori* insistence on the primacy of actual spiritual authority over the secular is obviously a premature absolutification of the relative, enough to guarantee its failure in practice. Solovyov's final rejection of this notion marked a crisis in his life, and when its falseness as a means became evident, the former utopian conception of 'all-unity' as the end was replaced by an eschatological view of its import, strikingly expressed in a prophetic Epilogue as the ultimate positive negation of false worldly unities. Readers may suspect that a similar absolutification of relative ethical principles explains his condemnation of capital punishment on the grounds that neither the retributive nor the deterrent theory is defensible.

A. M. FAIRWEATHER

Dream and Reality. An Essay in Autobiography. By N. BERDYAEV. Translated from the Russian by KATHARINE LAMPERT. (London: G. Bles. 1950. Pp. xvi + 332. Price 30s).

This is a stimulating record of an uncompromising, restless search for the meaning of life, of a tireless, undefeated effort in self-knowledge. It is therefore—therefore, that is, for Berdyaev—a record of 'conflict with the inexorable and crushing determinations of this world' and of bringing forward, out of the very substance of the conflict, the image of another world which is transcendent, 'which reaches out beyond all boundaries and limitations and holds within itself the mystery of life'.

Berdyaev is a lonely, uprooted pilgrim in an alien world; when we understand, as this book enables us to do, not only the character of the conflict, but also the place where and the way in which it is conducted, we see how much more he is than this.

Although he speaks of himself as fighting *for* the freedom of the spirit in, for instance, the midst of the Marxist world and amidst the Russian Orthodox, what in fact we find him doing is something quite different. He fights, *in* the freedom of the spirit, for what is human, for 'God's lofty, noble idea of man', to establish and confirm man—not mankind nor humanity, but the concrete, unique, unrepeatable particular man—as a being who is grounded, not in the substance of the material world, whatever that may prove to be, but in the supreme reality of the spirit. It is this which determines the motive and character of his anarchism. It is because of this that he is touched more deeply by human misery, pain and suffering than by the sinfulness of man; that he is able to proclaim and effect the transformation of the *vis inertiae*, the gloomy, sick frustrating impotence of the sense of sin into the ecstasy of joyful creation as 'God's claim on and call to man'. On this is based his eschatological demand, of which the following is a typical expression: 'I have frequently found myself resisting the pressure of historical processes because of their hostility and mercilessness towards man, because they arise and grow for the sake of inhuman and impersonal aims. History must come to an end, since it is incapable of resolving the problem of personality within its limits, and leads beyond them. But I cannot extricate myself from the world. History takes place within me'.

'Fighting in the freedom of the spirit for . . .', is the mode of conflict recorded here. 'History takes place within me' is another, less ambiguous expression for it. We find, as we turn the pages of this book, that the alien world is taken up into his own freedom and made the content of his own self. The alienation is no longer external, but inward. And the place of conflict is within. If there is to be any transfiguration, any redemption of the world, then it must first take place within him, within his own freedom, before there can be any outward sign of it. This is what we understand by his loneliness, by his uprootedness. Thus, not only did he know betrayal and the deliberate turning of truth into falsehood and suffering and tragedy from without, but also from within, as that which, because it happened in the world and to the world, happened also in him to him. He is not swallowed up or crushed by the alien world; he sets going within himself the movement of its redemption. The mode of his conflict is the mode of creative redemption.

So freedom becomes a burden, a source of tragedy and of untold hope.

How shall we sum up this book? Between it and the facts of his life there intervenes the movement of creative redemption of which we have spoken.

Berdyaev is more than an interpreter of his age: he is the voice of his age and its vision. No future historian of the 20th century will be able to ignore his witness to its events and intellectual problems.

But this book, this autobiographical study of a Russian *emigré*? It is as if the age itself had become skilled in the use of the pen for the purpose of setting down its own story: full of brutal meaningless things, it was yet not so meaningless as it seemed, but was determined to overcome, in itself, the oblivion of the past, of the *temps perdu*, of the lost generations, and the fear of the future, determined to make its own past and its own future present, to be in itself the new age that would arise out of its own ruin.

E. F. F. HILL

The Clairvoyant Theory of Perception. By M. M. MONCRIEFF. (London: Faber & Faber. 1951. Pp. 315. Price 21s).

Professors Price and Broad have suggested on several occasions that it may be possible to construct a theory to accommodate both normal and supernormal cognition by developing Bergson's account of normal memory and sense-perception. According to Bergson the function of the associated physiological processes is to *inhibit* one's awareness of everything except those parts of one's past experience and of one's contemporary environment which are most relevant to one's bodily survival—a theory which seems to presuppose supernormal cognition by every mind of everything. Mr. Moncrieff has taken up this theme and his thesis is that ordinary vision is a special form of clairvoyance. It can scarcely be said that Mr. Moncrieff has contributed to the clarification or plausibility of this kind of theory. His procedure will be briefly indicated.

The author defines 'clairvoyance' as 'Perceptual Awareness of External Material Things derived otherwise than through the medium of the Normal Visual Sensory Organs' (p. 1). There appears, therefore, to be an obvious inconsistency between his thesis and his admission that ordinary vision is 'subject to or dependent on the electromagnetic radiations of light' (p. 108) and is affected by defects in the structure of the eye (p. 113). The author acknowledges this as a possible criticism, but claims that it is 'forestalled' by saying (1) that ordinary vision is a form of 'Travelling Clairvoyance', (ii) that Travelling Clairvoyance is a form of 'Four-dimensional Vision', (iii) that Four-dimensional Vision transcends the spatial conditions of our ordinary existence. One could have been content if Mr. Moncrieff had developed a case for accepting (i); for there is at least some respectable evidence for what is called 'travelling clairvoyance' (i.e. cases where the subject 'sees' events from selected points which are remote from his own body). Unfortunately the author seems to think it necessary to base his thesis on the occurrence of a kind of supernormal cognition which he calls 'Four-dimensional Vision'. What he means by this term is obscure. He offers a series of scarcely compatible definitions (pp. 39, 95 and 97) and his only alleged illustration (pp. 40/41) is culled from an admittedly unreliable source, and does not exemplify the preceding definition. The term 'Four-dimensional Vision' seems in fact to have been invented in the interests of the author's metaphysical principle—'The Principle of Four-dimensionality'. The chapter in which we are offered a brief outline of this principle is not very illuminating. One gathers that it is supposed to explain such diverse relations as those between colours and light-waves, between the beauty of an object and its spatio-temporal parts. and between the meaning of a sentence and the meanings of its component words. It is not surprising that, equipped with such a tool, Mr. Moncrieff can dispose of the problems raised by this thesis. It is, however, cold comfort for the reader to be repeatedly told that he must await the author's next book in order to learn just how this tool works.

More surprising perhaps than any of the author's statements is the claim made on the dust-cover that Mr. Moncrieff's theory 'can be easily understood without any previous acquaintance with the subject, and his book can be recommended to the general reader'.

C. W. K. MUNDLE

ERRATUM

In the issue for January 1952, p. 56, for 'proposition' in line 21, read 'imperative'.